2233

HITACHI

SERVICE MANUAL

TY

No.697E

FX-10

[E, Z, B]

CAUTION
DANGER Invisible laser radiation when open and interlocks failed or defeated. **AVOID DIRECT EXPOSURE TO BEAM.**

GEFAHR
Unsichtbare Laser-Strahlung wenn Interlock (Blockierung) funktionsuntüchtig oder abgeschaltet. **UNMITTELBAREN KONTAKT MIT DEM STRAHL UNBEDIGT VERMEIDEN.**

DANGER
Faire très attention aux radiations émises par le faisceau laser invisible au défaillance du verrouillage. **NE JAMAIS S'EXPOSER DIRECTEMENT AU FAISCEAU.**

VARNING
När apparaten öppnats och skyddsanordningen felar eller satts ur funktion förekommer osynlig laserstrålning. **UNDVIK DIREKTE BESTRÅLING.**

ADVARSEL
Når apparatet åbnes og beskyttelsesanordningen ikke virker eller sættes un af funktion, forekommer der usynlig laserstråling. **UNDGÅ DIREKTE BESTRÅLING.**

ADVARSEL
Når denne delen er apen som følge av at låsen er utkoplet eller ikke fungerer, eksisterer det usynlig laserstråling. **UNNGÅ Å BLI UTSATT FOR DIREKTE BESTRÅLING!**

VARIOITS
Laite lähettää näkymätöntä lasersäteilyä, kun se avataan ja kun sisäiset turvalukot eivät toimi. **VARO JOUTUMASTA ALTTIIKSI SÄTEILYLLE.**

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SAFETY PRECAUTION

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers.Critical parts are marked with ⚠ in the circuit diagram and printed wiring board.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

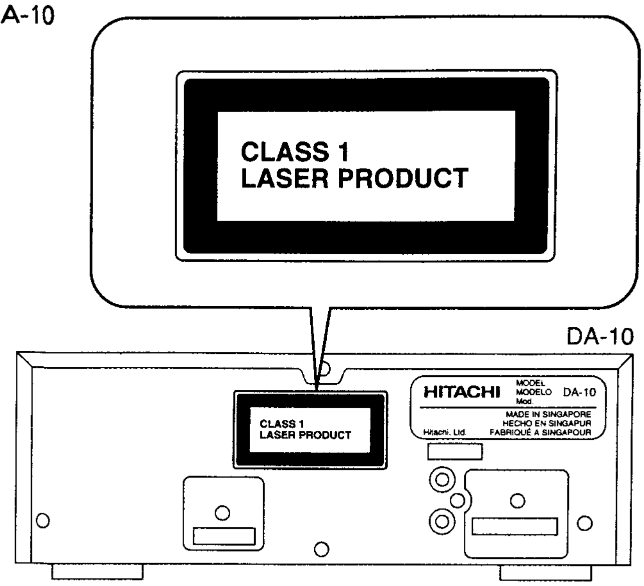
SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

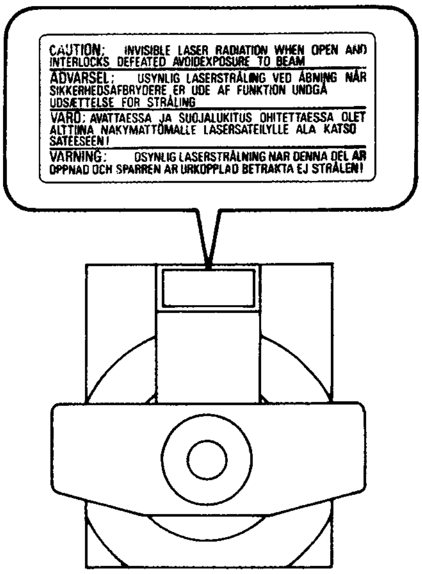
COMPACT DISC STEREO SYSTEM

July 1992 Consumer Electronics Division

The caution labels on laser usage

DA-10


CLASS 1
LASER PRODUCT
DA-10
CLASS 1
LASER PRODUCT
HITACHI
MODEL
MODELO
Mod.
DA-10
MADE IN SINGAPORE
HECHO EN SINGAPUR
FABRIQUÉ A SINGAPOUR
Hitachi, Ltd.


CAUTION: INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOIDEXPOSURE TO BEAM
ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING
VARO: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NAKYMATTÖMALLE LASERSATEILYLLE ALA KATSO SATEESEEN!
VARNING: OSYNLIG LASERSTRÅLNING NAR DENNA DEL AR OPPNAD OCH SPARREN AR URKOPPLAD BETRAKTA EJ STRÅLEN!

SPECIFICATIONS

• Preamplifier-Tuner (HPT-10)

Tuning range:	FM : 87.5 to 108.0MHz (50kHz step) MW: 522 to 1,611kHz (9kHz step) LW : 153 to 281kHz (1kHz step)
Sensitivity (S/N 26dB):	FM : 1.5μV MW: 61dB/m LW : 68dB/m
Signal to Noise ratio (mono):	70dB
Separation (Stereo):	40dB
Input sensitivity:	Aux 300mV/47kohms Phono 3mV/47kohms (switchable) DAT 300mV/22kohms
Output/impedance:	DAT rec 200mV/1kohms Pre out 200mV/1kohms
Frequency response:	10 to 20,000Hz (DAT)
Distortion (1kHz):	0.005%
Signal to Noise ratio:	95dB
Tone control:	Bass +/-8dB (100Hz) Treble +/-8dB (10kHz)

• Tape Deck (D-10)

Frequency response:	Nor : 40 to 15,000Hz CrO_2 : 40 to 16,000Hz Metal : 40-17,000Hz
Signal to Noise ratio:	72dB (Dolby C on) 56dB (Dolby off)
Wow flutter:	0.08% wrms

• Power Amplifier (HMA-10)

Output power:	50W + 50W 0.02% (SINUS)
Distortion (1/12P):	0.015%
Frequency response:	10 to 50,000Hz
Input sensitivity:	200mV/47kohms
Dynamic bass:	70Hz 10 dB
Signal to Noise ratio:	96dB

• CD Player (DA-10)

Frequency response:	5 to 20,000Hz
Dynamic range:	98dB
Signal to noise ratio:	103dB
Distortion (1kHz):	0.007%
Separation (1kHz)	97dB

• General Specifications

Power supply:	AC230V, 50Hz [E,Z]
Power consumption:	330W AC240V, 50Hz [B]
Dimensions:	
CD Player:	225 (W) x 83 (H) x 262 (D) mm
Preamplifier-Tuner:	225 (W) x 83 (H) x 275 (D) mm
Tape Deck:	225 (W) x 115 (H) x 262 (D) mm
Power Amplifier:	225 (W) x 115 (H) x 321 (D) mm
Weight:	
CD Player:	2.0kg
Preamplifier-Tuner:	1.8kg
Tape Deck:	2.8kg
Power Amplifier:	5.9kg
Timer accuracy:	Within 60 seconds at monthly rate

• Speaker System (HS-FX10)

System:	16cm 3-way speaker system
Impedance:	6ohms
Max. Power (Music):	100W
Dimensions:	199 (W) x 396 (H) x 255 (D) mm
Weight:	10kg

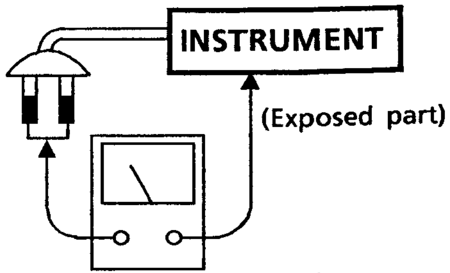
• Accessories

AM loop antenna:	1
Antenna holder and screws:	1set
System connector cable (9P):	1
System connector cable (15P):	1
Pin cord (2P):	1
Pin cord (1P):	2
Remote control (RB-10)	1

Specifications are subject to change without notice for performance inprovement.

Check that exposed parts are acceptably insulated from the supply circuit before returning the instrument repaired to the customer.

- **Checking method**
  Power (Operate) switch is set to ON.
  Next, measure the resistance value between the both poles of attachment cup (Power supply plug) and the CD OUT terminal of rear plate and check that the resistance value is 500 kohms or more.


INSTRUMENT
(Exposed part)

Insulation tester (DC 500V)

DISASSEMBLY INSTRUCTIONS

CASSETTE DECK

1. Open the cassette covers and take out the cassette tapes.
2. Remove five screws Ⓐ holding the metal case.
3. Remove six screws Ⓑ holding the cassette mechanism set.

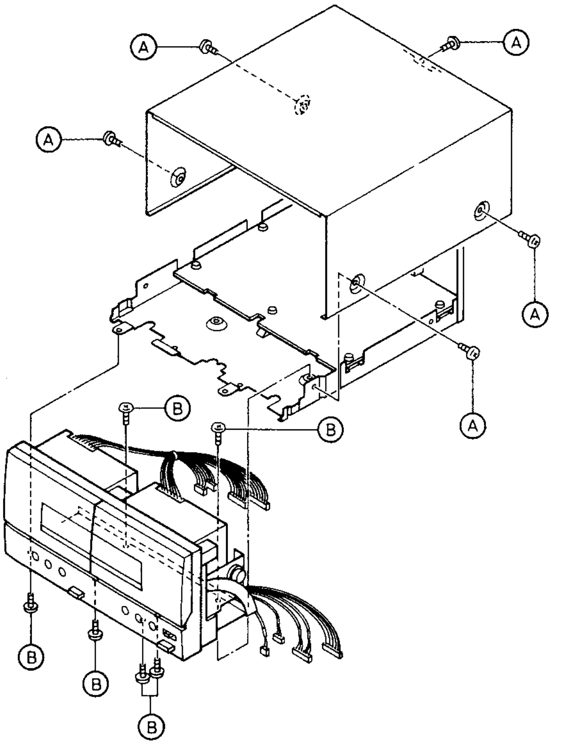


Figure 1

4. Remove eight screws Ⓒ holding the deckamplifier PCB.

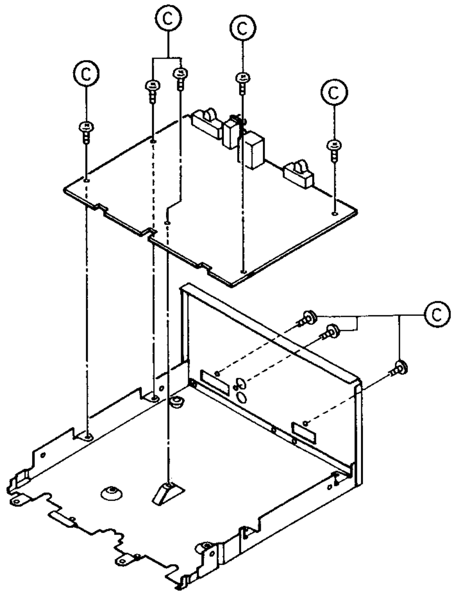


Figure 2

5. Remove a screw Ⓓ and eight screws Ⓔ holding the cassette mechanism.
6. Push two tabs, take out the cassete lid.

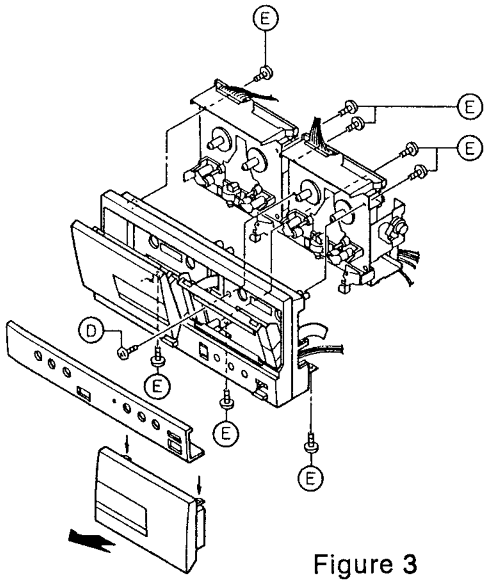


Figure 3

STANDARD MAINTENANCE

Whenever a unit is brought in for service or repair, it should be cleaned and lubricated and the head should be demagnetized.

1. **Cleaning:** Clean the head and all tape handing surfaces using standard cleaner and cotton swabs. Wipe dry.
2. **Demagnetization:** Do not use magnetized tools near the head, since they can magnetize it. With normal use, the head with retain small amounts of residual magnetism which results in increased noise and loss of high-frequency response. Use a standard tape head demagnetizer to demagnetize the playback head.
3. **Lubrication:** Use a high-grade of specially formulated lubricant in the appropriate places. Lubrication is normally required only when parts tend to bind, or after long period of use. Use all lubricants sparingly and avoid contact with other parts.

ELECTRICAL ADJUSTMENT

Pre-Adjustment Procedures

1. Be sure to demagnetize and clean the head before proceeding with head adjustment.
2. Never use a magnetized screwdriver for the head adjustment.

Tape Speed Adjustment (Figure 4)

Step	Connect	Setting	Adjust	Remarks
1	Connect a Frequency Counter to the CN201 of Fig. 4.	Cassette 1 F/R	VR401	• Test Tape: MTT-111N • 2940Hz~3060Hz
2		Cassette 2 F/R	VR402	

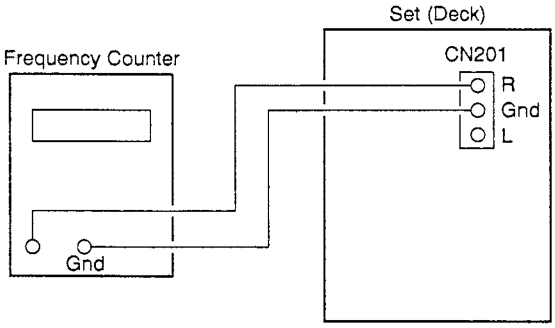


Figure 4

Playback Head Azimuth Adjustment (Cassette 1) (Figures 5 and 6)

1. Connect and output meter or oscilloscope to each of the CN201.
2. Playback and 12.5 kHz test tape and turn the azimuth adjustment screw to obtain the maximum output level of the left and right channels, in the forward and reverse play modes.
3. When the output level of the left and right channels, and forward and reverse position differs, readjust to the make the both channels, and both directions at the same level.
4. After adjustment, secure the screw with lock paint or glue.

Record/Playback Head Azimuth Adjustment (Cassette 2)(Figures 5 and 6)

1. Connect and output meter or oscilloscope to each of the CN201.
2. Playback and 12.5 kHz test tape and turn the azimuth adjustment screw to obtain the maximum output level of the left and right channels.
3. When the output level of the left and right channels differs, readjust to make the both channels at the same level.
4. After adjustment, secure the screw with lock paint or glue.

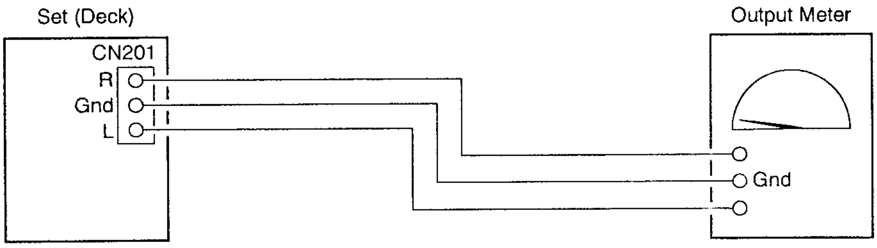


Figure 5

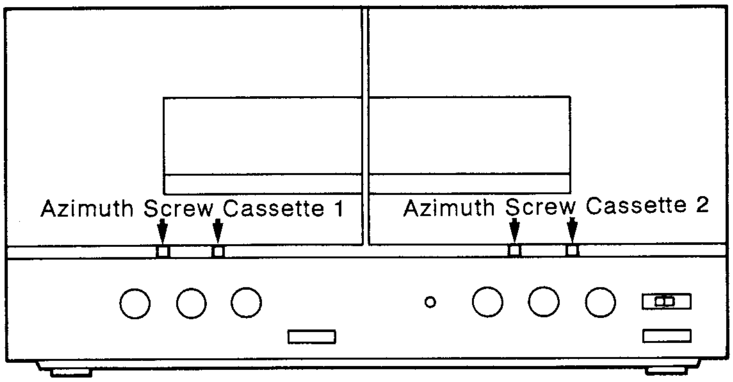


Figure 6

Playback Level Adjustment (Figure 7)

Step	Connect	Setting	Adjust	Remarks
1	Connect a Output Meter to the CN201 of Figure 7.	Cassette 1 L-ch R-ch	VR217 VR317	• Output Level 580mV ±2dB • Test Tape: MTT-150
2		Cassette 2 L-ch R-ch	VR216 VR316	

Bias Frequency Adjustment (Cassette 2) (Figures 8 and 10)

Step	Connect	Setting	Adjust	Remarks
1	Connect a Frequency Counter to the TP101 (Bias) and TP102 (Gnd). (Figures 8 and 10)	Metal Position Rec mode	L172	• 105kHz ±1kHz

Recording Level Adjustment (Cassette 2) (Figure 9)

Step	Connect	Setting	Adjust	Remarks
1	Connect a Output Meter to the CN201.			
2	Connect a Audio Signal Generator to the "AUX" terminal of Pre-Tuner section. (Figure 9)	400Hz		
3	Set the Deck REC/PAUSE mode with normal Tape.			
4	Adjust the level of the Audio Signal Generator.	L/R of 410mV at CN201		
5	Record and playback.	Lch	VR256	• REC/Playback Level 410mV ±0.5dB
		Rch	VR356	

Bias Current Adjustment (Cassette 2) (Figure 9)

Step	Connect	Setting	Adjust	Remarks
1	Connect Output Meter to the CN201.			
2	Connect a Audio Signal Generator to "AUX" terminal or Pre-Tuner section. (Figure 9)	12.5kHz		
3	Set the Deck REC/PAUSE mode with CrO2 Tape.			
4	Adjust the level of the Audio Signal Generator.	41mV at CN201 L/R.		
5	Record and playback	Lch	VR291	• REC/Playback Level 41mV +0.5dB − 0dB
		Rch	VR391	

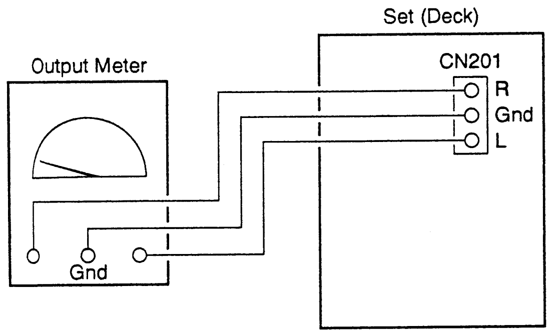

Set (Deck)
Output Meter
CN201
R
Gnd
L
Gnd

Figure 7

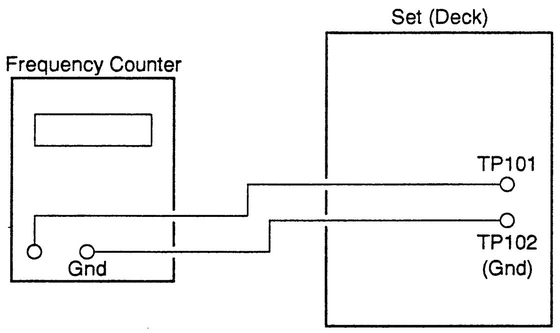

Set (Deck)
Frequency Counter
TP101
TP102
(Gnd)
Gnd

Figure 8

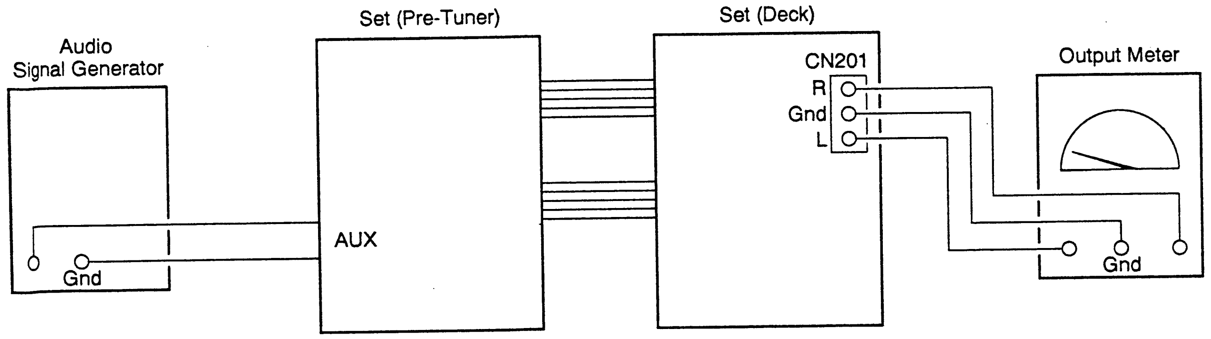

Audio
Signal Generator
Gnd
Set (Pre-Tuner)
AUX
Set (Deck)
CN201
R
Gnd
L
Output Meter
Gnd

Figure 9

Deck Amplifier PWB Top View

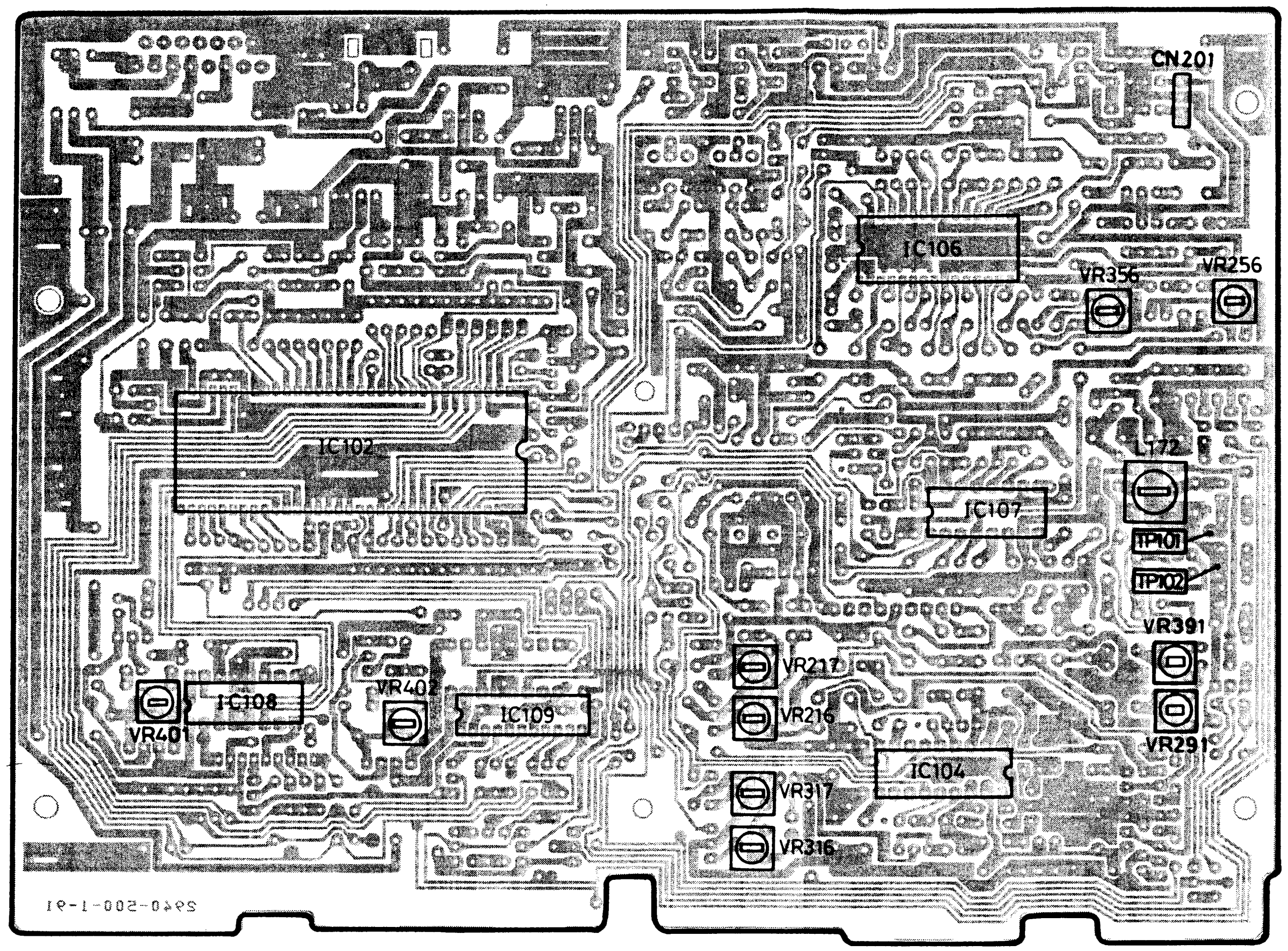

CN201
IC106
VR356
VR256
IC102
L172
IC107
TP101
TP102
VR391
VR217
VR216
IC108
VR402
IC109
VR401
VR291
IC104
VR317
VR316

Figure 10

A countermeasure of statical electricity (Figure 11).

Connect a ceramic capacitor 0.1 μF the chassis to deck display PWB.

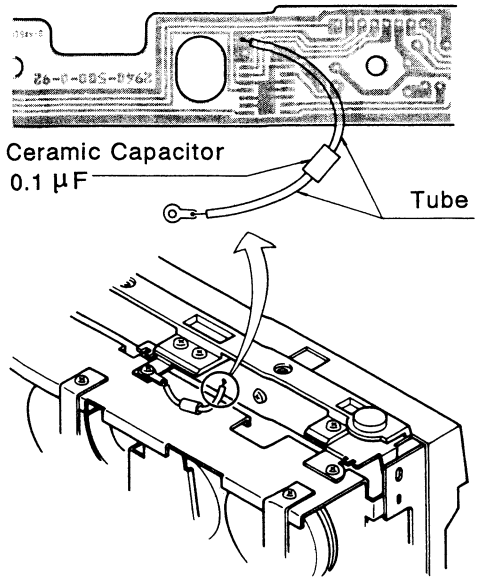

Ceramic Capacitor
0.1 μF
Tube

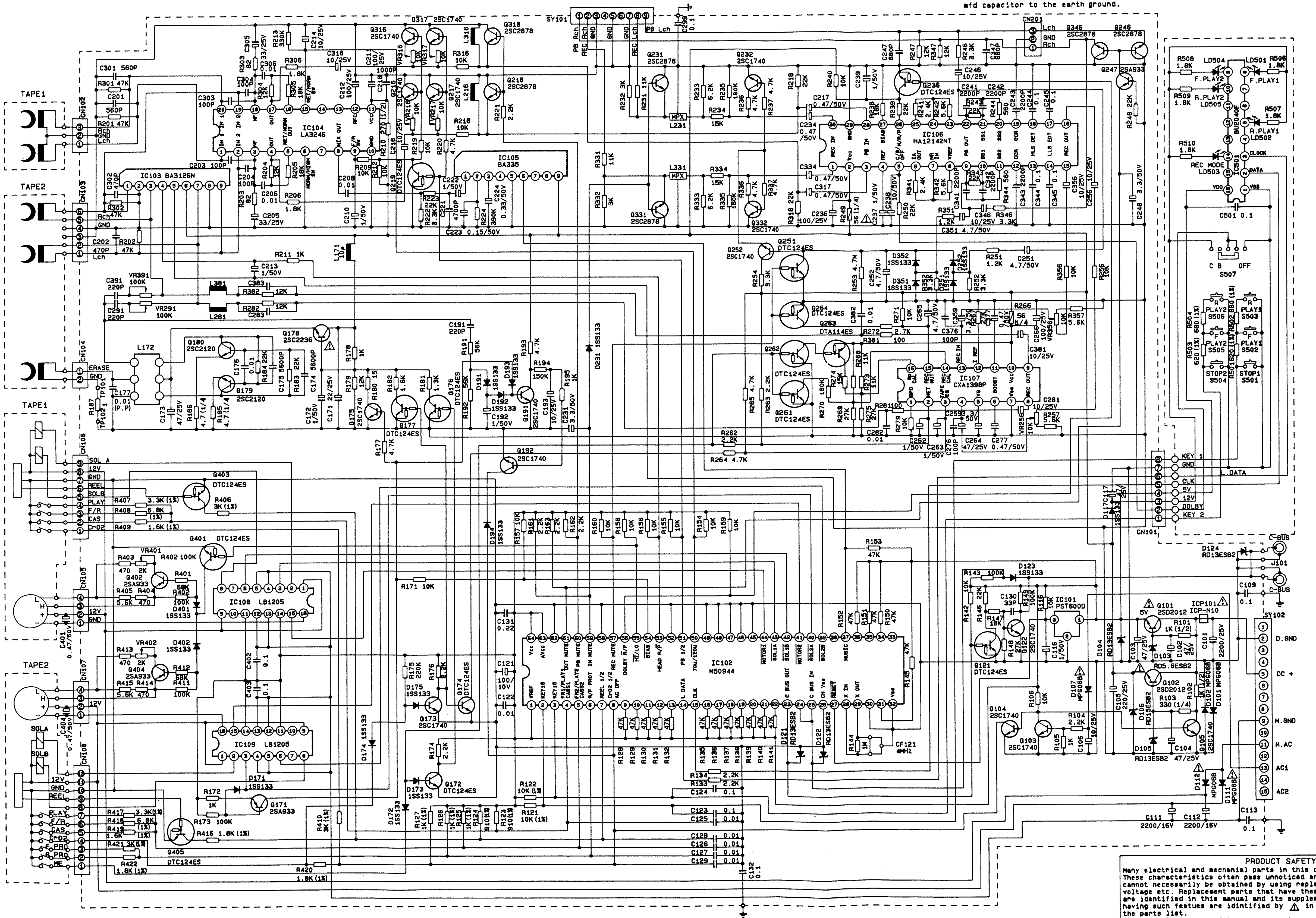
Figure 11

SCHEMATIC DIAGRAM

Cassette Deck

Make leakage current or resistande mesurments to betermine that exposed metal parts are acceptably insulated from the supply circuit before retuning the appliance to the customer.

Leakage current from microphone jack and battery terminals should not exceed 0.7 mA as measured through a 2.0 kohm resistor paralleled by a 0.15 mfd capacitor to the earth ground.


TAPE1
TAPE2
TAPE1
TAPE2
CN102
CN103
CN104
CN105
CN106
CN107
CN108
CN101
CN201
SY101
SY102
IC101 PST600D
IC102 M50944
IC103 BA3126N
IC104 LA3246
IC105 BA335
IC106 HA12142NT
IC107 CXA1398P
IC108 LB1205
IC109 LB1205
ICP101 ICP-N10
BU2040F
L.DATA
KEY 1
GND
CLK
5V
12V
DOLBY
KEY 2
C-BUS
J101
D.GND
DC +
M.GND
M.AC
AC1
AC2
ERASE
SOL A
SOL B
REEL
PLAY
F/R
CAS
CrO2
ME
PB Rch
REC Rch
REC Lch
PB Lch
F.PLAY1
F.PLAY2
R.PLAY1
R.PLAY2
REC MODE
S501 STOP1
S502 PLAY1
S503 PLAY1
S504 STOP2
S505 PLAY2
S506 PLAY2
S507
CF121 4MHz

TAPE 1 ICs Voltage [V]

	IC101	IC103	IC105
1	5.0	0.0	2.0
2	0.0	0.0	–
3	5.0	0.0	2.0
4		0.0	–
5		0.0	0.0
6		12.4	0.0
7		0.0	–
8		0.0	–
9		0.0	12.4

	IC102	IC106	IC104
1	5.0	5.9	0.0
2	5.0	11.8	0.0
3	5.0	5.9	0.6
4	2.7	5.7	4.1
5	5.0	1.4	4.1
6	5.0	5.9	0.0
7	–	5.9	–
8	3.8	5.9	4.1
9	5.0	5.9	0.1
10	0.0	5.9	0.0
11	5.0	5.9	9.8
12	0.0	5.9	9.8
13	5.0	1.9	–
14	0.0	5.9	–
15	0.0	5.9	0.0
16	0.0	1.9	4.1
17	0.0	1.9	4.1
18	5.0	1.9	0.6
19	0.0	5.9	0.0
20	5.0	5.9	0.0
21	0.0	5.9	
22	5.0	5.9	
23	5.0	5.9	
24	5.0	5.9	
25	5.0	5.9	
26	0.0	0.7	
27	5.0	0.3	
28	2.3	5.9	
29	2.0	0.0	
30	0.0	5.9	
31	5.0		
32	0.0		
33	–		
34	5.0		
35	5.0		
36	5.0		
37	0.0		
38	–		
39	4.4		
40	4.7		
41	4.4		
42	4.4		
43	4.4		
44	0.0		
45	0.0		
46	0.0		
47	0.0		
48	0.0		
49	0.0		
50	0.0		
51	1.9		
52	0.0		
53	0.0		
54	3.1		
55	3.7		
56	3.6		
57	3.0		
58	0.0		
59	1.4		
60	0.1		
61	0.1		
62	0.0		
63	5.0		
64	5.0		

	IC107	IC108	IC109	IC501
1	2.8	13.0	13.3	0.0
2	10.3	13.0	13.3	0.0
3	12.3	4.4	4.7	0.0
4	5.9	0.0	0.0	–
5	5.9	0.0	0.0	10.2
6	5.9	4.4	4.4	–
7	0.0	–	–	–
8	5.9	13.0	13.3	10.0~0.1
9	5.9	13.0	13.3	0.2
10	11.8	–	–	10.2
11	5.9	5.0	5.0	–
12	1.2	0.0	0.0	–
13	5.9	0.0	0.0	–
14	8.0	5.0	5.0	10.4
15	2.7	0.0	4.4	–
16	9.4	0.7	12.3	5.0

PRODUCT SAFETY NOTICE

Many electrical and mechanial parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacements components rated for higher voltage etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such featues are idintified by ⚠ in the schematic diagrams and the parts list.

Before replacing any of these components. read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock. fire. or other hazards.

TAPE 2 ICs Voltage [V]

	IC101	IC103	IC105
1	5.0	0.0	2.0
2	0.0	0.0	–
3	5.0	0.0	2.0
4		0.0	–
5		0.0	0.0
6		12.4	0.0
7		0.0	–
8		0.0	–
9		0.0	12.4

	IC102	IC106	IC104
1	5.0	5.9	0.0
2	5.0	11.8	0.0
3	5.0	5.9	0.6
4	5.0	5.7	4.1
5	2.7	1.4	4.1
6	2.7	5.9	0.0
7	–	5.9	–
8	3.2	5.9	4.1
9	5.0	5.9	5.7
10	0.0	5.9	0.0
11	5.0	5.9	9.8
12	0.0	5.9	9.8
13	5.0	1.9	–
14	0.0	5.9	–
15	0.0	5.9	0.0
16	0.0	1.9	4.1
17	0.0	1.9	4.1
18	5.0	1.9	0.6
19	0.0	5.9	0.0
20	5.0	5.9	0.0
21	0.0	5.9	
22	5.0	5.9	
23	5.0	5.9	
24	5.0	5.9	
25	5.0	5.9	
26	0.0	0.7	
27	5.0	0.3	
28	2.3	5.9	
29	2.0	0.0	
30	0.0	5.9	
31	5.0		
32	0.0		
33	–		
34	5.0		
35	5.0		
36	5.0		
37	0.0		
38	–		
39	4.4		
40	4.7		
41	0.0		
42	4.4		
43	4.4		
44	4.4		
45	0.0		
46	0.0		
47	0.0		
48	0.0		
49	0.0		
50	0.0		
51	0.0		
52	0.0		
53	0.0		
54	3.1		
55	3.7		
56	3.6		
57	3.0		
58	0.0		
59	1.4		
60	0.1		
61	0.1		
62	0.0		
63	5.0		
64	5.0		

	IC107	IC108	IC109	IC501
1	2.8	13.3	12.9	0.0
2	6.5	13.3	12.9	0.0
3	6.2	4.4	4.7	0.0
4	5.9	0.0	0.0	–
5	5.9	0.0	0.0	10.2
6	5.9	4.4	4.4	–
7	0.0	–	–	–
8	5.9	13.3	12.9	0.2
9	5.9	13.3	12.9	10.0~0.1
10	11.8	–	–	10.2
11	5.9	5.0	5.0	–
12	1.2	0.0	0.0	–
13	5.9	0.0	0.0	–
14	8.3	5.0	5.0	10.4
15	2.7	4.4	0.0	–
16	8.4	12.3	0.7	5.0

TAPE 1
Transistor Voltage [V]

	B	C	E
Q101	5.6	16.9	5.0
Q102	13.0	16.9	12.4
Q103	0.8	0.0	0.0
Q104	0.0	3.8	0.0
Q105	0.0	14.0	0.0
Q121	5.0	0.0	0.0
Q122	0.0	4.8	0.0
Q171	5.0	1.2	5.0
Q172	7.7	0.0	0.0
Q173	0.6	0.1	0.0
Q174	0.1	12.3	0.0
Q175	0.7	0.1	0.0
Q176	0.0	0.3	0.0
Q177	0.1	0.3	0.0
Q178	0.3	12.4	0.2
Q179	0.2	0.2	0.0
Q180	0.2	0.2	0.0
Q191	0.0	0.1	0.0
Q192	0.1	3.5	0.0
Q216	0.1	0.0	0.0
Q217	0.6	0.0	0.0
Q218	0.1	0.0	0.0
Q219	1.8	0.1	0.0
Q231	0.7	0.0	0.0
Q232	0.0	0.0	0.0
Q236	3.6	0.0	0.0
Q246	0.0	0.0	0.0
Q247	0.0	0.0	0.1
Q251	2.9	0.0	0.0
Q252	0.0	12.4	0.0
Q261	8.2	0.0	0.0
Q262	8.2	0.0	0.0
Q263	0.0	11.8	11.8
Q264	3.0	0.0	0.0
Q316	0.1	0.0	0.0
Q317	0.6	0.0	0.0
Q318	0.1	0.0	0.0
Q331	0.7	0.0	0.0
Q332	0.0	0.0	0.0
Q346	0.0	0.0	0.0
Q401	3.7	0.0	0.0
Q402	11.5	12.1	12.1
Q403	–	–	0.0
Q404	12.6	13.2	13.2
Q405	0.0	0.0	0.0

TAPE 2
Transistor Voltage [V]

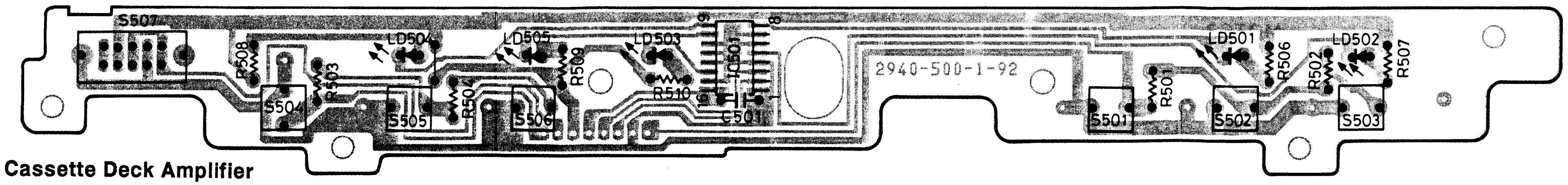
	B	C	E
Q101	5.6	16.9	5.0
Q102	13.0	16.9	12.4
Q103	0.8	0.0	0.0
Q104	0.0	3.2	0.0
Q105	0.0	14.0	0.0
Q121	5.0	0.0	0.0
Q122	0.0	4.8	0.0
Q171	5.0	1.2	5.0
Q172	0.3	4.6	0.0
Q173	0.3	4.3	0.0
Q174	4.3	0.0	0.0
Q175	0.7	0.1	0.0
Q176	4.6	0.0	0.0
Q177	4.3	0.0	0.0
Q178	0.3	12.4	0.2
Q179	0.2	0.2	0.0
Q180	0.2	0.2	0.0
Q191	0.0	0.1	0.0
Q192	0.1	3.0	0.0
Q216	0.6	0.0	0.0
Q217	0.0	0.0	0.0
Q218	0.1	0.0	0.0
Q219	0.0	6.2	0.0
Q231	0.7	0.0	0.0
Q232	0.0	0.0	0.0
Q236	3.6	0.0	0.0
Q246	0.0	0.0	0.0
Q247	0.0	0.0	0.1
Q251	2.9	0.0	0.0
Q252	0.0	12.4	0.0
Q261	0.6	8.2	0.0
Q262	0.6	11.8	0.0
Q263	11.8	8.4	11.8
Q264	3.0	0.0	0.0
Q316	0.6	0.0	0.0
Q317	0.0	0.0	0.0
Q318	0.1	0.0	0.0
Q331	0.7	0.0	0.0
Q332	0.0	0.0	0.0
Q346	0.0	0.0	0.0
Q401	3.7	0.0	0.0
Q402	12.6	13.2	13.2
Q403	0.6	0.0	0.0
Q404	11.4	11.9	11.9
Q405	–	–	0.0

Voltage check position: Play/Forward position

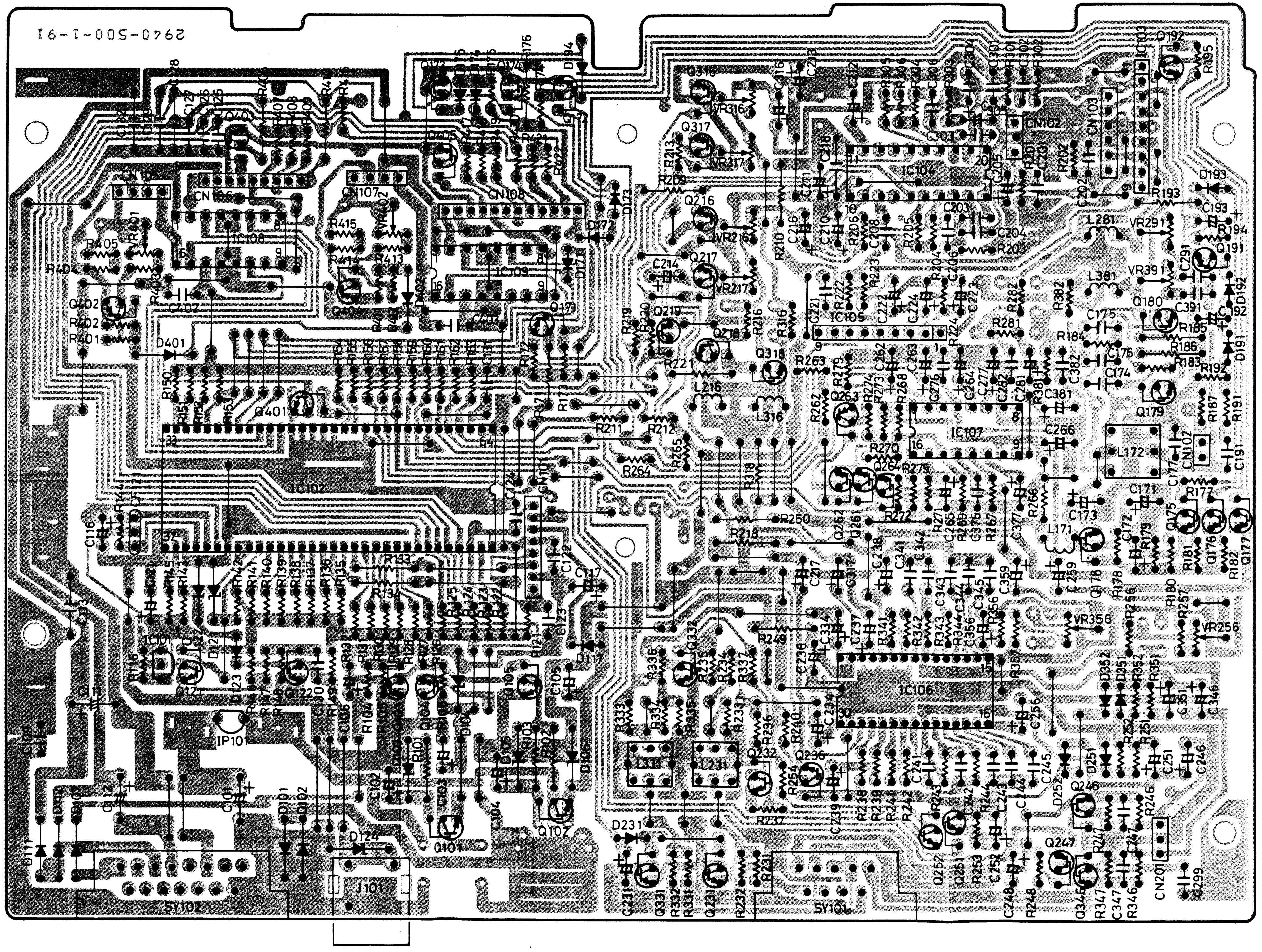
PWB BOTTOM VIEW

NOTE
The Original PWB Top View.
Electrical capacitors: ● mark is plus side.

Cassette Deck Switch


S507
LD504
LD505
LD503
LD501
LD502
IC501
R508
R503
R502
R509
R510
C501
R501
R506
R505
R507
S504
S505
S506
S501
S502
S503
2940-500-1-92

Cassette Deck Amplifier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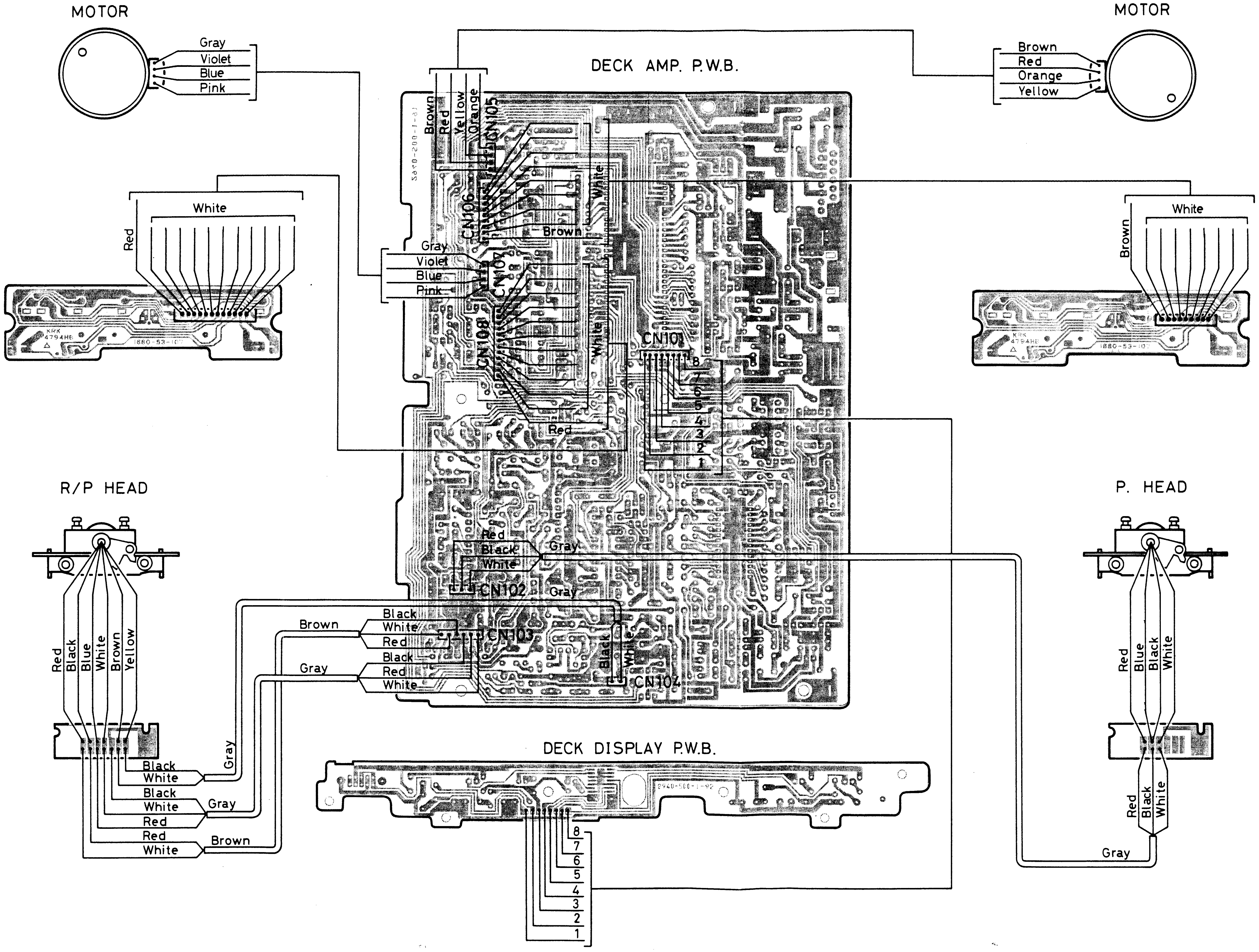
IC101
IC102
IC103
IC104
IC105
IC106
IC107
IC108
IC109
CN101
CN102
CN103
CN104
CN106
CN107
CN108
CN201
Q101
Q102
Q103
Q104
Q105
Q121
Q122
Q171
Q172
Q173
Q174
Q175
Q176
Q177
Q178
Q179
Q180
Q191
Q192
Q216
Q217
Q218
Q219
Q231
Q232
Q236
Q246
Q247
Q251
Q252
Q261
Q262
Q263
Q264
Q316
Q317
Q318
Q331
Q332
Q346
Q401
Q402
Q403
Q404
Q405
L171
L172
L216
L231
L281
L316
L331
L381
VR216
VR217
VR256
VR291
VR316
VR317
VR356
VR391
IP101
J101
SY101
SY102

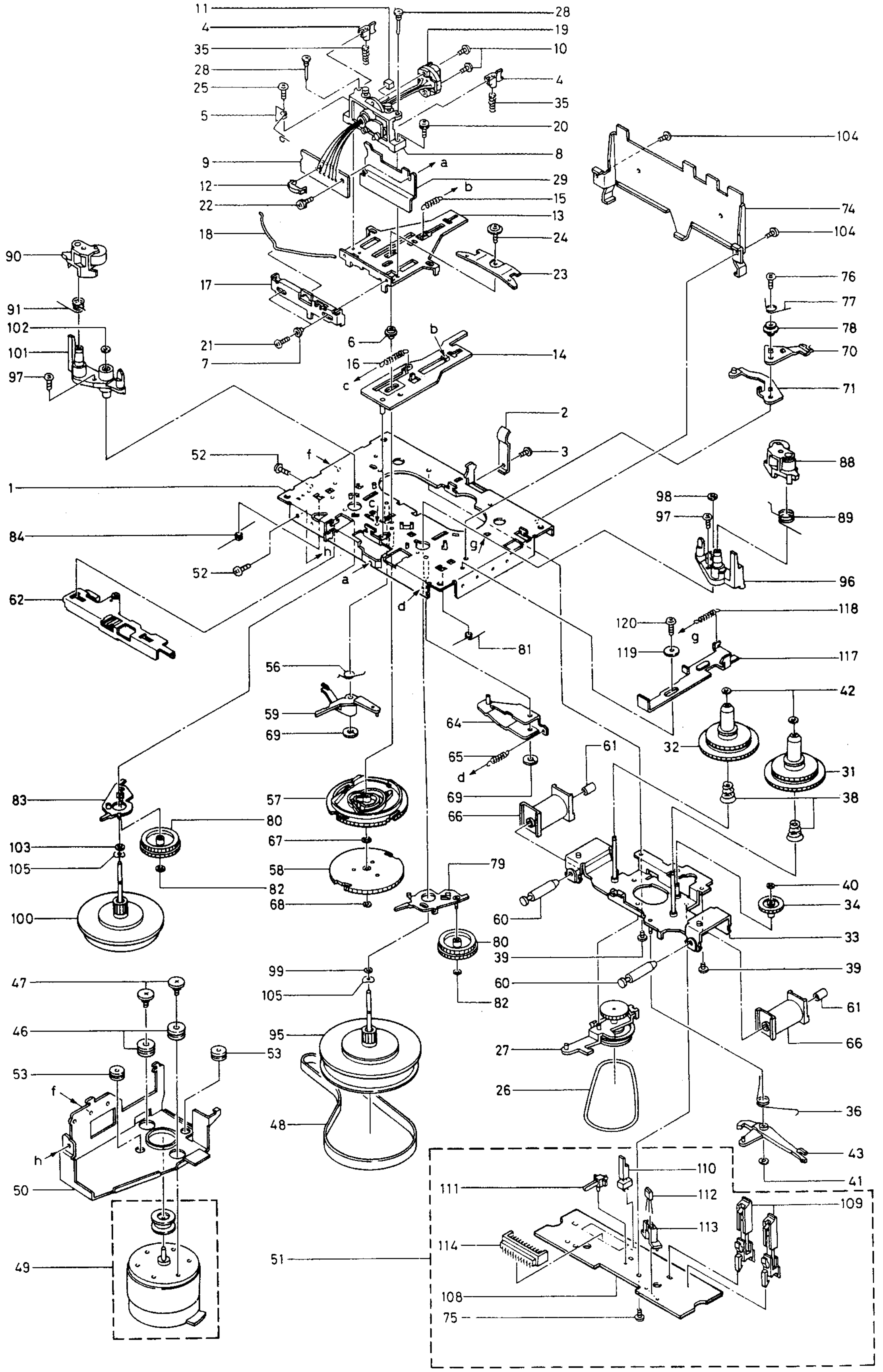
WIRING DIAGRAM

Cassette Deck


MOTOR
Gray
Violet
Blue
Pink
MOTOR
Brown
Red
Orange
Yellow
DECK AMP. P.W.B.
Brown
Red
Yellow
Orange
CN105
CN106
CN107
CN108
Gray
Violet
Blue
Pink
White
Brown
White
Red
Red
White
White
Brown
White
CN101
8
7
6
5
4
3
2
1
R/P HEAD
P. HEAD
Red
Black
White
Gray
CN102
Gray
Black
White
Red
Black
Red
White
CN103
Brown
Gray
Black
White
CN104
Red
Black
Blue
White
Brown
Yellow
Black
White
Gray
Black
White
Gray
Red
Red
White
Brown
DECK DISPLAY P.W.B.
8
7
6
5
4
3
2
1
Red
Blue
Black
White
Red
Black
White
Gray

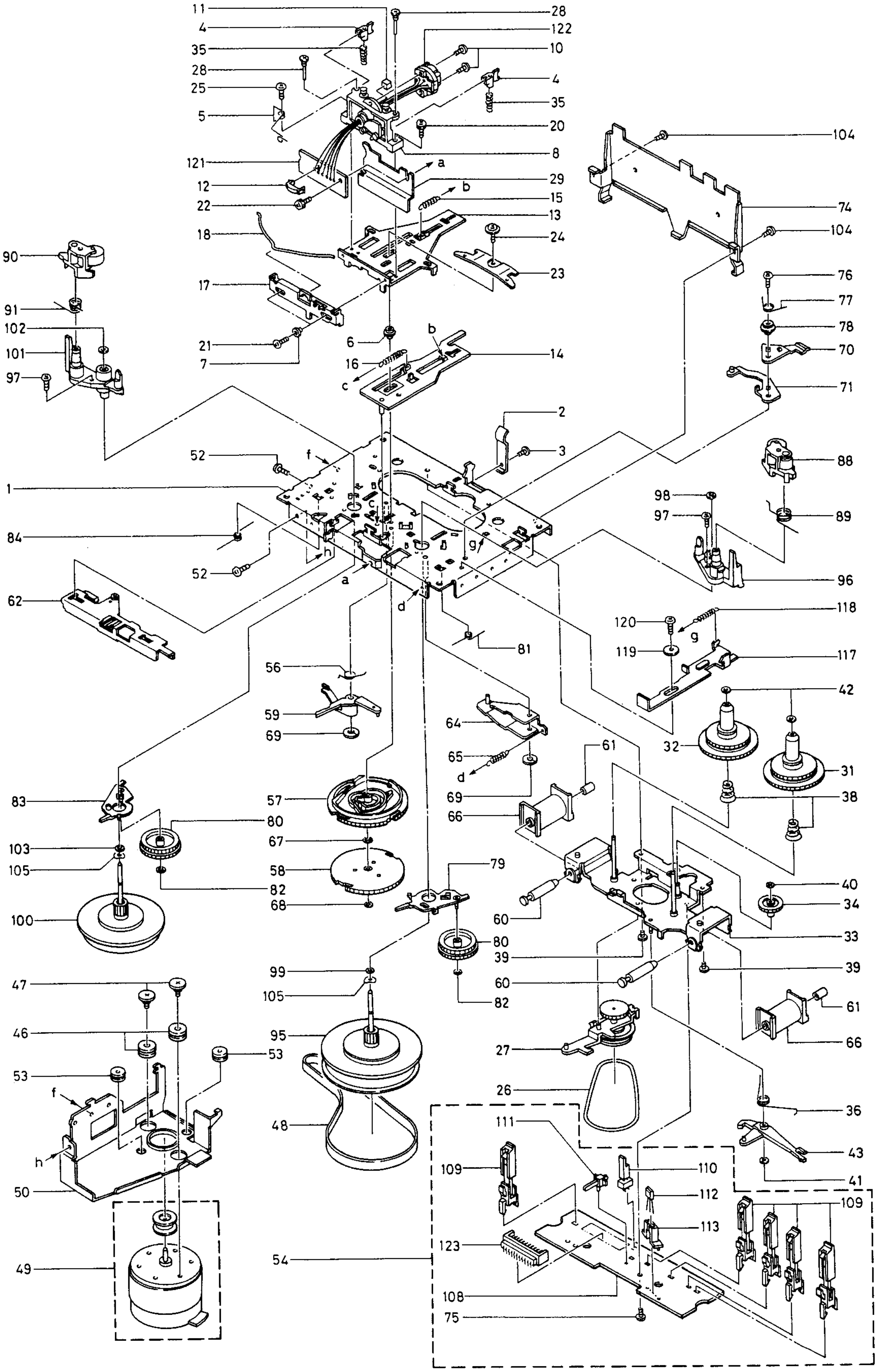
EXPLODED VIEW

Cassette Deck Mechanism(Cassette 1)


11
4
35
28
25
5
c
9
12
22
18
17
21
7
28
19
10
4
35
20
8
a
29
b
15
13
24
23
104
74
104
76
77
78
70
71
90
91
102
101
97
6
b
16
c
14
2
3
52
f
1
84
h
52
a
c
g
d
88
98
97
89
96
62
120
118
g
119
117
81
56
59
69
64
65
d
69
66
61
42
32
31
38
83
80
57
103
105
100
67
58
82
68
79
40
34
60
33
80
39
39
47
99
105
60
82
61
46
95
27
66
53
53
f
48
26
36
43
41
h
50
110
111
112
109
113
114
49
51
108
75

EXPLODED VIEW

Cassette Deck Mechanism(Cassette 2)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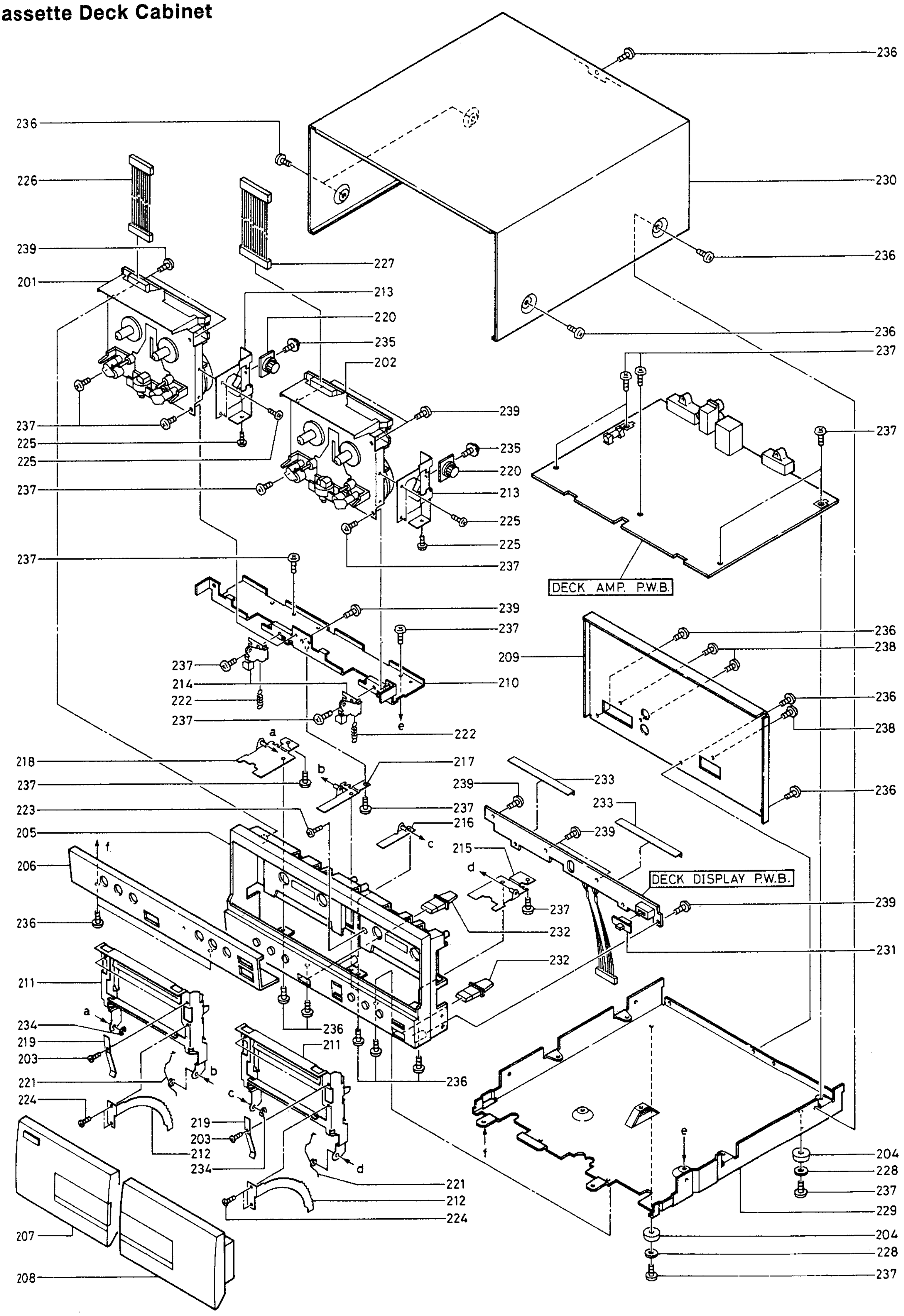
28
4
122
35
10
28
25
4
5
35
20
104
8
121
a
29
12
b
22
15
74
18
13
104
24
90
17
23
76
77
91
102
78
21
6
b
14
101
70
7
16
97
c
71
2
52
f
3
88
1
98
97
89
c
84
g
h
52
a
96
62
d
118
120
g
81
119
117
56
42
59
69
64
32
61
31
65
d
38
69
83
57
66
80
67
103
105
58
79
40
82
34
68
100
60
80
33
39
99
39
105
60
82
47
61
46
95
53
66
53
27
f
26
36
48
111
109
110
43
h
41
50
112
109
113
123
49
54
108
75

EXPLODED VIEW

Cassette Deck Cabinet


236
236
226
230
239
227
201
213
220
235
236
202
236
237
239
237
237
225
225
235
220
237
213
225
225
237
237
DECK AMP. P.W.B.
239
237
236
238
209
237
214
210
222
237
e
222
236
238
218
a
217
b
237
239
233
237
233
223
216
c
239
205
f
215
206
d
DECK DISPLAY P.W.B.
237
236
239
232
232
231
211
a
234
236
219
211
203
b
236
221
c
224
219
204
203
228
212
e
237
234
d
f
229
221
212
204
224
228
207
237
208

PARTS LIST

PRODUCT SAFETY NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the **PRODUCT SAFETY NOTICE** of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS:

Capacitors··················CC: Cylindrical ceramic, CD: Ceramic disc,
MF: Mylar film, EL: Electrolytic, ST: Styrol
Resistors·····················CF: Carbon film, RN: Metal film,
CS: Oxide metal film, FR: Fuse resistor
Semiconductor············Q: Transistor, D: Diode, IC: IC

Cassette Deck

SYMBOL No.	PART No.	DESCRIPTION
	PWB ASSEMBLY	
	2940-605-0-00	Deck amplifier PWB ass (with display PWB)
	CAPACITORS	
C101	0937-732-2-26	EL, 2200 μF ±20% 25V
C102	0937-834-7-06	EL, 47 μF ±20% 25V
C103	0937-834-7-06	EL, 47 μF ±20% 25V
C104	0937-834-7-06	EL, 47 μF ±20% 25V
C105	0937-832-2-16	EL, 220 μF ±20% 25V
C106	0937-851-0-06	EL, 10 μF ±20% 50V
C107	Not used.	
C108	Not used.	
C109	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C110	Not used.	
C111	0937-722-2-26	EL, 2200 μF ±20% 16V
C112	0937-722-2-26	EL, 2200 μF ±20% 16V
C113	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C114	Not used.	
C115	Not used.	
C116	0937-850-1-06	EL, 1 μF ±20% 50V
C117	0937-834-7-06	EL, 47 μF ±20% 25V
C118 to C120	Not used.	
C121	0937-811-0-16	EL, 100 μF ±20% 10V
C122	9302-021-0-35	CC, 0.01 μF ±10% 16V
C123	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C124	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C125	9302-021-0-35	CC, 0.01 μF ±10% 16V
C126	9302-021-0-35	CC, 0.01 μF ±10% 16V
C127	9302-021-0-35	CC, 0.01 μF ±10% 16V
C128	9302-021-0-35	CC, 0.01 μF ±10% 16V
C129	9302-021-0-35	CC, 0.01 μF ±10% 16V
C130	9301-153-3-04	CC, 33 PF ±5% 50V
C131	0933-452-2-44	CF、 0.22 μF ±5% 50V
C132	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C133 to C170	Not used.	
C171	0937-832-2-06	EL, 22 μF ±20% 25V
C172	0937-850-1-06	EL, 1 μF ±20% 50V
C173	0937-834-7-06	EL, 47 μF ±20% 25V
C174	9335-455-6-24	MF, 5600 PF ±5% 50V
C175	9335-455-6-24	MF, 5600 PF ±5% 50V
C176	9335-451-0-34	MF, 0.01 μF ±5% 50V
C177	9330-671-0-34	MF, 0.01 μF ±5% 100V
C178 to C190	Not used.	
C191	9301-452-2-15	CC, 220 PF ±10% 50V
C192	0937-850-1-06	EL, 1 μF ±20% 50V
C193	0937-851-0-06	EL, 10 μF ±20% 50V
C194 to C200	Not used.	
C201	9301-455-6-15	CC, 560 PF ±10% 50V
C202	9301-454-7-15	CC, 470 PF ±10% 50V
C203	9301-451-0-15	CC, 100 PF ±10% 50V
C204	9301-451-0-15	CC, 100 PF ±10% 50V
C205	0937-833-3-06	EL, 33 μF ±20% 25V
C206	9335-451-0-34	MF, 0.01 μF ±5% 50V
C207	Not used.	
C208	9335-451-0-34	MF, 0.01 μF ±5% 50V
C209	Not used.	
C210	0937-850-1-06	EL, 1 μF ±20% 50V
C211	9364-121-0-16	EL, 100 μF ±20% 16V
C212	9364-121-0-16	EL, 100 μF ±20% 16V
C213	0937-850-1-06	EL, 1 μF ±20% 50V
C214	0937-851-0-06	EL, 10 μF ±20% 50V
C215	Not used.	
C216	0937-851-0-06	EL, 10 μF ±20% 50V
C217	0937-854-7-96	EL, 0.47 μF ±20% 50V
C218	9301-451-0-25	CC, 1000 PF ±10% 50V
C219	Not used.	
C220	Not used.	
C221	9335-454-7-24	MF, 4700 PF ±5% 50V
C222	0937-850-1-06	EL, 1 μF ±20% 50V
C223	0937-851-5-96	EL, 0.15 μF ±20% 50V
C224	0937-853-3-96	EL, 0.33 μF ±20% 50V
C225 to C230	Not used.	
C231	0937-853-3-86	EL, 3.3 μF ±20% 50V
C232	Not used.	
C233	Not used.	
C234	0937-854-7-96	EL, 0.47 μF ±20% 50V
C235	Not used.	
C236	0937-831-0-16	EL, 100 μF ±20% 25V
C237	0937-850-1-06	EL, 1 μF ±20% 50V
C238	0937-851-0-06	EL, 10 μF ±20% 50V
C239	0937-850-1-06	EL, 1 μF ±20% 50V
C240	Not used.	
C241	9335-452-2-24	MF, 2200 PF ±5% 50V
C242	9335-452-2-24	MF, 2200 PF ±5% 50V
C243	9335-452-2-24	MF, 2200 PF ±5% 50V
C244	0933-451-0-44	CF, 0.1 μF ±5% 50V
C245	0933-451-0-44	CF, 0.1 μF ±5% 50V
C246	0937-851-0-06	EL, 10 μF ±20% 50V
C247	9301-456-8-15	CC, 680 PF ±10% 50V
C248	0937-853-3-86	EL, 3.3 μF ±20% 50V
C249	Not used.	
C250	Not used.	
C251	0937-854-7-86	EL, 4.7 μF ±20% 50V
C252	0937-854-7-86	EL, 4.7 μF ±20% 50V
C253 to C255	Not used.	
C256	0937-851-0-06	EL, 10 μF ±20% 50V

SYMBOL No.	PART No.	DESCRIPTION			
C257	Not used.				
C258	Not used.				
C259	0937-853-3-86	EL,	3.3 µF	±20%	50V
C260	Not used.				
C261	Not used.				
C262	0937-850-1-06	EL,	1 µF	±20%	50V
C263	0937-850-1-06	EL,	1 µF	±20%	50V
C264	0937-834-7-06	EL,	47 µF	±20%	25V
C265	0937-854-7-86	EL,	4.7 µF	±20%	50V
C266	0937-831-0-16	EL,	100 µF	±20%	25V
C267					
to	Not used.				
C275					
C276	9301-451-0-15	CC,	100 PF	±10%	50V
C277	0937-854-7-96	EL,	0.47 µF	±20%	50V
C278					
to	Not used.				
C280					
C281	0937-851-0-06	EL,	10 µF	±20%	50V
C282	9302-021-0-35	CC,	0.01 µF	±10%	16V
C283					
to	Not used.				
C290					
C291	9301-452-2-15	CC,	220 PF	±10%	50V
C292					
to	Not used.				
C298					
C299	9302-351-0-49	CC,	0.1 µF	+80/-20%	50V
C300	Not used.				
C301	9301-455-6-15	CC,	560 PF	±10%	50V
C302	9301-454-7-15	CC,	470 PF	±10%	50V
C303	9301-451-0-15	CC,	100 PF	±10%	50V
C304	9301-451-0-15	CC,	100 PF	±10%	50V
C305	0937-833-3-06	EL,	33 µF	±20%	25V
C306	9335-451-0-34	MF,	0.01 µF	±5%	50V
C307					
to	Not used.				
C315					
C316	0937-851-0-06	EL,	10 µF	±20%	50V
C317	0937-854-7-96	EL,	0.47 µF	±20%	50V
C318					
to	Not used.				
C333					
C334	0937-854-7-96	EL,	0.47 µF	±20%	50V
C335					
to	Not used.				
C340					
C341	9335-452-2-24	MF,	2200 PF	±5%	50V
C342	9335-452-2-24	MF,	2200 PF	±5%	50V
C343	9335-452-2-24	MF,	2200 PF	±5%	50V
C344	0933-451-0-44	CF,	0.1 µF	±5%	50V
C345	0933-451-0-44	CF,	0.1 µF	±5%	50V
C346	0937-851-0-06	EL,	10 µF	±20%	50V
C347	9301-456-8-15	CC,	680 PF	±10%	50V
C348					
to	Not used.				
C350					
C351	0937-854-7-86	EL,	4.7 µF	±20%	50V
C352					
to	Not used.				
C355					
C356	0937-851-0-06	EL,	10 µF	±20%	50V
C357	Not used.				
C358	Not used.				
C359	0937-853-3-86	EL,	3.3 µF	±20%	50V
C360					
to	Not used.				
C375					
C376	9301-451-0-15	CC,	100 PF	±10%	50V
C377	0937-864-7-96	EL,	0.47 µF	±20%	50V

SYMBOL No.	PART No.	DESCRIPTION				
C378						
to	Not used.					
C380						
C381	0937-851-0-06	EL,	10 µF	±20%		50V
C382	9302-021-0-35	CC,	0.01 µF	±10%		16V
C383						
to	Not used.					
C390						
C391	9301-452-2-15	CC,	220 PF	±10%		50V
C392						
to	Not used.					
C400						
C401	0938-954-7-96	EL,	0.47 µF	±20%		50V
C402	9302-351-0-49	CC,	0.1 µF	+80/-20%		50V
C403	9302-351-0-49	CC,	0.1 µF	+80/-20%		50V
C404	0938-954-7-96	EL,	0.47 µF	±20%		50V
C405						
to	Not used.					
C500						
C501	9302-351-0-49	CC,	0.1 µF	+80/-20%		50V
		RESISTORS				
R101	0921-521-0-24	CF,	1k ohm	±5%	SRD	1/2P
R102	0921-521-0-24	CF,	1k ohm	±5%	SRD	1/2P
R103	0920-813-3-14	CF,	330 ohm	±5%	SRD	1/4P
R104	0920-862-2-24	CF,	2.2k ohm	±5%	SRD	1/6P
R105	0920-861-0-24	CF,	1k ohm	±5%	SRD	1/6P
R106	0920-861-0-34	CF,	10k ohm	±5%	SRD	1/6P
R107						
to	Not used.					
R115						
R116	0920-861-0-34	CF,	10k ohm	±5%	SRD	1/6P
R117						
to	Not used.					
R120						
R121	0926-511-0-32	RN,	10k ohm	±1%	SRD	1/4P
R122	0926-511-0-32	RN,	10k ohm	±1%	SRD	1/4P
R123	0926-519-1-12	RN,	910 ohm	±1%	SRD	1/4P
R124	0926-519-1-12	RN,	910 ohm	±1%	SRD	1/4P
R125	0926-511-0-22	RN,	1k ohm	±1%	SRD	1/4P
R126	0926-511-0-22	RN,	1k ohm	±1%	SRD	1/4P
R127	0926-511-0-22	RN,	1k ohm	±1%	SRD	1/4P
R128	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R129	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R130	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R131	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R132	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R133	0920-862-2-24	CF,	2.2k ohm	±5%	SRD	1/6P
R134	0920-862-2-24	CF,	2.2k ohm	±5%	SRD	1/6P
R135	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R136	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R137	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R138	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R139	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R140	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R141	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R142	0920-861-0-34	CF,	10k ohm	±5%	SRD	1/6P
R143	0920-861-0-44	CF,	100k ohm	±5%	SRD	1/6P
R144	0920-861-0-54	CF,	1M ohm	±5%	SRD	1/6P
R145	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R146	0920-862-2-34	CF,	22k ohm	±5%	SRD	1/6P
R147	0920-861-8-34	CF,	18k ohm	±5%	SRD	1/6P
R148	0920-862-7-34	CF,	27k ohm	±5%	SRD	1/6P
R149	0920-861-0-44	CF,	100k ohm	±5%	SRD	1/6P
R150	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R151	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R152	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R153	0920-864-7-34	CF,	47k ohm	±5%	SRD	1/6P
R154	0920-861-0-34	CF,	10k ohm	±5%	SRD	1/6P

SYMBOL No.	PART No.	DESCRIPTION
R155	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R156	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R157	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R158	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R159	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R160	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R161	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R162	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R163	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R164 to R170	Not used.	
R171	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R172	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R173	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R174	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R175	0920-862-2-44	CF, 220k ohm ±5% SRD 1/6P
R176	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R177	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R178	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R179	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R180	0920-861-5-04	CF, 15 ohm ±5% SRD 1/6P
R181	0920-861-3-24	CF, 1.3k ohm ±5% SRD 1/6P
R182	0920-861-6-24	CF, 1.6k ohm ±5% SRD 1/6P
R183	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R184	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R185	0920-814-7-84	CF, 4.7 ohm ±5% SRD 1/4P
R186	0920-814-7-84	CF, 4.7 ohm ±5% SRD 1/4P
R187	0920-860-1-04	CF, 1 ohm ±5% SRD 1/6P
R188 to R190	Not used	
R191	0920-865-6-34	CF, 56k ohm ±5% SRD 1/6P
R192	0920-865-6-34	CF, 56k ohm ±5% SRD 1/6P
R193	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R194	0920-861-5-44	CF, 150k ohm ±5% SRD 1/6P
R195	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R196 to R200	Not used.	
R201	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R202	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R203	0920-868-2-04	CF, 82 ohm ±5% SRD 1/6P
R204	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R205	0920-861-8-34	CF, 18k ohm ±5% SRD 1/6P
R206	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
R207	Not used.	
R208	Not used.	
R209	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R210	0921-522-7-14	CF, 270 ohm ±5% SRD 1/2P
R211	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R212	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R213	0920-863-3-44	CF, 330k ohm ±5% SRD 1/6P
R214	Not used.	
R215	Not used.	
R216	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R217	Not used.	
R218	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R219	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R220	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R221	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R222	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R223	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R224	0920-863-9-44	CF, 390k ohm ±5% SRD 1/6P
R225 to R230	Not used.	
R231	0920-861-1-34	CF, 11k ohm ±5% SRD 1/6P
R232	0920-863-0-24	CF, 3k ohm ±5% SRD 1/6P
R233	0920-866-2-24	CF, 6.2k ohm ±5% SRD 1/6P

SYMBOL No.	PART No.	DESCRIPTION
R234	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P
R235	0920-861-8-44	CF, 180k ohm ±5% SRD 1/6P
R236	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R237	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R238	0920-861-8-34	CF, 18k ohm ±5% SRD 1/6P
R239	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R240	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R241	0920-862-4-24	CF, 2.4k ohm ±5% SRD 1/6P
R242	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R243	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R244	0920-865-6-14	CF, 560 ohm ±5% SRD 1/6P
R245	Not used.	
R246	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R247	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R248	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R249	0921-115-6-04	CF, 56 ohm ±5% SRD 1/4P
R250	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R251	0920-861-2-24	CF, 1.2k ohm ±5% SRD 1/6P
R252	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R253	0920-864-7-54	CF, 4.7M ohm ±5% SRD 1/6P
R254	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R255	Not used.	
R256	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R257	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R258 to R261	Not used.	
R262	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R263	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R264	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R265	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R266	0921-115-6-04	CF, 56 ohm ±5% SRD 1/4P
R267	0920-862-7-34	CF, 27k ohm ±5% SRD 1/6P
R268	0920-861-1-34	CF, 11k ohm ±5% SRD 1/6P
R269	0920-862-7-34	CF, 27k ohm ±5% SRD 1/6P
R270	0920-861-8-44	CF, 180k ohm ±5% SRD 1/6P
R271	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R272	0920-862-7-24	CF, 2.7k ohm ±5% SRD 1/6P
R273	0920-861-1-34	CF, 11k ohm ±5% SRD 1/6P
R274	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P
R275	0920-862-7-34	CF, 27k ohm ±5% SRD 1/6P
R276 to R278	Not used.	
R279	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R280	Not used.	
R281	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R282	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R283 to R300	Not used.	
R301	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R302	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R303	0920-868-2-04	CF, 82 ohm ±5% SRD 1/6P
R304	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R305	0920-861-8-34	CF, 18k ohm ±5% SRD 1/6P
R306	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
R307 to R315	Not used.	
R316	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R317	Not used.	
R318	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R319 to R330	Not used.	
R331	0920-861-1-34	CF, 11k ohm ±5% SRD 1/6P
R332	0920-863-0-24	CF, 3k ohm ±5% SRD 1/6P
R333	0920-866-2-24	CF, 6.2k ohm ±5% SRD 1/6P
R334	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P

SYMBOL No.	PART No.	DESCRIPTION
R335	0920-861-8-44	CF, 180k ohm ±5% SRD 1/6P
R336	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R337	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R338 to R340	Not used.	
R341	0920-862-4-24	CF, 2.4k ohm ±5% SRD 1/6P
R342	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R343	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R344	0920-865-6-14	CF, 560 ohm ±5% SRD 1/6P
R345	Not used.	
R346	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R347	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R348 to R350	Not used.	
R351	0920-861-2-24	CF, 1.2k ohm ±5% SRD 1/6P
R352	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R353 to R355	Not used.	
R356	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R357	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R358 to R380	Not used.	
R381	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R382	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R383 to R400	Not used.	
R401	0920-866-8-34	CF, 68k ohm ±5% SRD 1/6P
R402	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R403	0920-864-7-14	CF, 470 ohm ±5% SRD 1/6P
R404	0920-864-7-14	CF, 470 ohm ±5% SRD 1/6P
R405	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R406	0926-513-0-22	RN, 3k ohm ±1% SRD 1/4P
R407	0926-513-3-22	RN, 3.3k ohm ±1% SRD 1/4P
R408	0926-516-8-22	RN, 6.8k ohm ±1% SRD 1/4P
R409	0926-511-6-22	RN, 1.6k ohm ±1% SRD 1/4P
R410	0926-513-0-22	RN, 3k ohm ±1% SRD 1/4P
R411	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R412	0920-866-8-34	CF, 68k ohm ±5% SRD 1/6P
R413	0920-864-7-14	CF, 470 ohm ±5% SRD 1/6P
R414	0920-864-7-14	CF, 470 ohm ±5% SRD 1/6P
R415	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R416	0926-511-8-22	RN, 1.8k ohm ±1% SRD 1/4P
R417	0926-513-3-22	RN, 3.3k ohm ±1% SRD 1/4P
R418	0926-516-8-22	RN, 6.8k ohm ±1% SRD 1/4P
R419	0926-511-6-22	RN, 1.6k ohm ±1% SRD 1/4P
R420	0926-511-8-22	RN, 1.8k ohm ±1% SRD 1/4P
R421	0926-513-0-22	RN, 3k ohm ±1% SRD 1/4P
R422	0926-511-8-22	RN, 1.8k ohm ±1% SRD 1/4P
R423 to R500	Not used.	
R501	0926-516-2-12	RN, 620 ohm ±1% SRD 1/4P
R502	0926-516-8-12	RN, 680 ohm ±1% SRD 1/4P
R503	0926-516-2-12	RN, 620 ohm ±1% SRD 1/4P
R504	0926-516-8-12	RN, 680 ohm ±1% SRD 1/4P
R505	Not used.	
R506	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
R507	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
R508	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
R509	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
R510	0920-861-8-24	CF, 1.8k ohm ±5% SRD 1/6P
COILS		
L171	0991-401-0-05	LHL06TB100K, 10 μH

SYMBOL No.	PART No.	DESCRIPTION
L172	0015-089-0-00	DSC trans-10
L216	0014-790-0-00	Trap coil
L231	0039-894-0-00	MPX filter
L281	0014-789-0-00	Trap coil
L316	0014-790-0-00	Trap coil
L331	0039-894-0-00	MPX filter
L381	0014-789-0-00	Trap coil
FILTER		
CF121	0038-911-0-00	Ceramic, resonat, CST4MGW
DIODES		
D101	0915-005-2-02	MPG06B
	or 0915-005-2-04	MPG06D
D102	0915-005-2-02	MPG06B
	or 0915-005-2-04	MPG06D
D103	0915-007-4-02	RD5.6ESB2
	or 0915-007-4-03	RD5.6ESB3
D104	0915-010-6-02	RD13ESB2
D105	0915-010-6-02	RD13ESB2
D106	0915-010-7-02	RD15ESB2
	or 0915-010-7-03	RD15ESB3
⚠D107	0915-005-2-02	MPG06B
⚠	or 0915-005-2-04	MPG06D
⚠D111	0915-005-2-04	MPG06D
⚠	or 0915-005-2-02	MPG06B
⚠D112	0915-005-2-04	MPG06D
⚠	or 0915-005-2-02	MPG06B
D117	0915-003-9-00	1SS133
D121	0915-010-6-02	RD13ESB2
D122	0915-010-6-02	RD13ESB2
D123	0915-003-9-00	1SS133
D124	0915-010-6-02	RD13ESB2
D171	0915-003-9-00	1SS133
D172	0915-003-9-00	1SS133
D173	0915-003-9-00	1SS133
D174	0915-003-9-00	1SS133
D175	0915-003-9-00	1SS133
D191	0915-003-9-00	1SS133
D192	0915-003-9-00	1SS133
D193	0915-003-9-00	1SS133
D194	0915-003-9-00	1SS133
D231	0915-003-9-00	1SS133
D251	0915-003-9-00	1SS133
D252	0915-003-9-00	1SS133
D351	0915-003-9-00	1SS133
D352	0915-003-9-00	1SS133
D401	0915-003-9-00	1SS133
D402	0915-003-9-00	1SS133
LD501	0916-029-3-00	LED, SLR-57MC3F
LD502	0916-029-3-00	LED, SLR-57MC3F
LD503	0916-029-2-00	LED, SLR-57VC3F
LD504	0916-029-3-00	LED, SLR-57MC3F
LD505	0916-029-3-00	LED. SLR-57MC3F
ICS and TRANSISTORS		
IC101	0911-153-5-00	PST600D
IC102	0037-163-0-00	M50944-179SP
IC103	0911-153-1-00	BA3126N
IC104	0911-152-7-00	LA3246
IC105	0911-153-0-00	BA335
IC106	0911-153-4-00	HA12142NT
IC107	0911-153-6-00	CXA1398P
IC108	0911-152-8-00	LB1205
IC109	0911-152-8-00	LB1205
IC501	0911-153-2-00	BU2040

SYMBOL No.	PART No.	DESCRIPTION
⚠Q101	0903-008-1-00	2SD2012
⚠Q102	0903-008-1-00	2SD2012
Q103	0906-203-3-19	2SC1740S-S
Q104	0906-203-3-19	2SC1740S-S
Q105	0906-203-3-19	2SC1740S-S
Q121	0906-203-1-00	DTC124E
	or 0906-209-0-00	BA1F4M
	or 0906-205-0-00	RN1203
Q122	0906-203-3-19	2SC1740S-S
Q171	0906-203-4-19	2SA933S-S
Q172	0906-203-1-00	DTC124ES
	or 0906-209-0-00	BA1F4M
	or 0906-205-0-00	RN1203
Q173	0906-203-3-19	2SC1740S-S
Q174	0906-203-1-00	DTC 124ES
	or 0906-205-0-00	RN1203
	or 0906-209-0-00	BA1F4M
Q175	0906-203-3-19	2SC1740S-S
Q176	0906-203-1-00	DTC124ES
	or 0906-209-0-00	BA1F4M
	or 0906-205-0-00	RN1203
Q177	0906-205-0-00	RN1203
	or 0906-209-0-00	BA1F4M
	or 0906-203-1-00	DTC124ES
⚠Q178	0902-005-1-25	2SC2236-Y
Q179	0906-207-3-25	2SC2120-Y
Q180	0906-207-3-25	2SC2120-Y
Q191	0906-203-3-19	2SC1740S-S
Q192	0906-203-3-19	2SC1740S-S
Q216	0906-203-3-19	2SC1740S-S
Q217	0906-203-3-19	2SC1740S-S
Q218	0906-203-5-02	2SC2878-B
Q219	0906-203-1-00	DTC124ES
	or 0906-209-0-00	BA1F4M
	or 0906-205-0-00	RN1203
Q231	0906-203-5-02	2SC2878-B
Q232	0906-203-3-19	2SC1740S-S
Q236	0906-203-1-00	DTC124ES
	or 0906-205-0-00	RN1203
	or 0906-209-0-00	BA1F4M
Q246	0906-203-5-02	2SC2878-B
Q247	0906-203-4-19	2SA933S-S
Q251	0906-209-0-00	BA1F4M
	or 0906-205-0-00	RN1203
	or 0906-203-1-00	DTC124ES
Q252	0906-203-3-19	2SC1740S-S
Q261	0906-203-1-00	DTC124ES
	or 0906-205-0-00	RN1203
	or 0906-209-0-00	BA1F4M
Q262	0906-209-0-00	BA1F4M
	or 0906-203-1-00	DTC124ES
	or 0906-205-0-00	RN1203
Q263	0906-208-3-00	BN1A4M
	or 0906-208-7-00	DTA114ES
Q264	0906-203-1-00	DTC124ES
	or 0906-205-0-00	RN1203
	or 0906-209-0-00	BA1F4M
Q316	0906-203-3-19	2SC1740S-S
Q317	0906-203-3-19	2SC1740S-S
Q318	0906-203-5-02	2SC2878-B
Q331	0906-203-5-02	2SC2878-B
Q332	0906-203-3-19	2SC1740S-S
Q346	0906-203-5-02	2SC2878-B
Q401	0906-203-1-00	DTC124ES
	or 0906-209-0-00	BA1F4M
	or 0906-205-0-00	RN1203
Q402	0906-203-4-19	2SA933S-S
Q403	0906-205-0-00	RN1203
	or 0906-209-0-00	BA1F4M
	or 0906-203-1-00	DTC124ES

SYMBOL No.	PART No.	DESCRIPTION
Q404	0906-203-4-19	2SA933S-S
Q405	0906-205-0-00	RN1203
	or 0906-203-1-00	DTC124ES
	or 0906-209-0-00	BA1F4M
JACK		
J101	0034-004-0-00	Pin 2P, YKC21-3085
SWITCHES		
S501	0028-855-0-00	Tact
S502	0028-855-0-00	Tact
S503	0028-855-0-00	Tact
S504	0028-855-0-00	Tact
S505	0028-855-0-00	Tact
S506	0028-855-0-00	Tact
S507	0028-306-0-00	Slide
VARIABLE RESISTORS		
VR216	0031-835-1-03	SF volume control, 10k ohm
	or 0031-837-1-03	SF volume control, 10k ohm
VR217	0031-837-1-03	SF volume control, 10k ohm
	or 0031-835-1-03	SF volume control, 10k ohm
VR256	0031-835-1-03	SF volume control, 10k ohm
	or 0031-837-1-03	SF volume control, 10k ohm
VR291	0031-837-1-04	SF volume control, 100k ohm
	or 0031-835-1-04	SF volume control, 100k ohm
VR316	0031-835-1-03	SF volume control, 10k ohm
	or 0031-837-1-03	SF volume control, 10k ohm
VR317	0031-837-1-03	SF volume control, 10k ohm
	or 0031-835-1-03	SF volume control, 10k ohm
VR356	0031-835-1-03	SF volume control, 10k ohm
	or 0031-837-1-03	SF volume control, 10k ohm
VR391	0031-837-1-04	SF volume control, 100k ohm
	or 0031-835-1-04	SF volume control, 100k ohm
VR401	0031-837-2-02	SF volume control, 2k ohm
	or 0031-835-2-02	SF volume control, 2k ohm
VR402	0031-837-2-02	SF volume control, 2k ohm
	or 0031-835-2-02	SF volume control, 2k ohm
CONNECTORS		
CN101	0034-750-0-08	Pin, 8 pin
CN102	0034-700-0-03	Pin, 3 pin
CN103	0034-700-0-06	Pin, 6 pin
CN104	0034-700-0-02	Pin, 2 pin
CN105	0034-700-0-04	Pin, 4 pin
CN106	0034-750-0-09	Pin, 9 pin
CN107	0034-700-0-04	Pin, 4 pin
CN108	0034-750-0-12	Pin, 12 pin
CN201	0034-700-0-03	Pin, 3 pin
SY101	0034-007-0-15	System connector pin, 15P
SY102	0034-007-0-09	System connector pin, 9P
OTHER		
⚠IP101	0045-802-0-10	ICP-N10
ACCESSORIES		
	2940-910-0-01	Gift box
	2920-915-0-00	Mirror mat
CASSETTE MECHANISM		
1	1880 01 504	Chassis ass
2	1880 01 02	Pack spring

SYMBOL No.	PART No.	DESCRIPTION
3	9178 00 00	C tapping screw M2x3 (special)
4	1865 02 50A	Tape guide
5	1865 02 60	Clamp spring (V)
6	1880 02 19	Panel collar (A)
7	1865 02 28	Chp lever collar
8	1880 02 25	Head base ass
9	1865 02 34	Relay board (C1)
10	9999 18 17	Head collar screw C
11	1865 09 61	Spacer
12	1865 02 49	Wire clamp
13	1880 02 01	Head panel (A)
14	1880 02 501	Head panel (B) ass
15	1880 02 04	RC spring
16	1880 02 05	Panel spring
17	1880 02 06	Chp lever
18	1880 04 05	Pinch roller spring
19	6204 03 20	Head HD42251S (C1)
20	9078 00 00	Tams screw M2x5
21	9547 00 00	Screw (for camera) M17x3
22	9999 20 20	S tapping tams screw M2x5
23	1880 02 16	Panel spring plate
24	9999 18 16	Cup (for camera) S tapping screw M2x5
25	9117 00 00	Bind screw M2x5
26	1880 07 08	RF belt
27	1880 07 305	RF clutch a ss
28	1865 02 52	Guide screw
29	1880 02-26	Shield plate
30	Not used.	
31	1880 05 325	T reel ass (F)
32	1880 05 323	T reel ass (R)
33	1880 05 501	Reel base ass
34	1880 05 08	FF gear
35	1865 02 54	Guide spring
36	1880 05 17	FR trigger arm spring
37	Not used.	
38	1880 05 22	B.T spring (R)
39	9180 00 00	C tapping screw M2x4
40	9421 00 00	P washer cut 1.2x3x0.25
41	9876 00 00	P washer cut 2.2x5x0.5
42	9999 70 03	HL washer cut 1.4x3.2x0.4
43	1880 05 15	RF trigger arm
44	Not used.	
45	Not used.	
46	1821 12 66	Motor rubber
47	1851 14 18	Motor collar screw
48	1880 09 66	Main belt
49	1880 09 341	Assembly, motor with pulley
50	1880 09 60	Motor bracket
51	1880 53 109	Assembly, mechanism PCB (C2)
52	9179 00 00	C tapping screw M2x3
53	1510 10 03	Rubber
54	1880 53 108	Assembly mechanism PCB (C1)
55	Not used.	
56	1880 01 06	M trigger arm spring
57	1880 21 15	M gear
58	1880 21 16	RF cam gear
59	1880 21 03	M trigger arm
60	1880 21 05	Plunger
61	1880 21 06	Plunger holder
62	1880 21 504	Channel slide lever ass
63	Not used.	
64	1880 21 503	P kick lever ass
65	1880 21 11	PK lever spring
66	1880 21 25	Solenoid
67	9502 00 00	E ring ø2
68	9999 70 06	HL washer cut 1.55x3.5x0.5
69	9999 70 04	HL washer cut 2.1x5x0.4
70	1880 13 28	E stopper A
71	1880 13 29	E stopper B
72	Not used.	

SYMBOL No.	PART No.	DESCRIPTION
73	Not used.	
74	1880 53 88	Switch protector
75	9180 00 00	C tapping screw M2x4
76	9985 00 00	Camera S tapping screw M2x5 guide
77	1880 13 31	E stopper spring M (F)
78	1880 13 05	E stopper collar
79	1880 05 502	T gear arm (F) ass
80	1880 05 36	T gear (A)
81	1880 05 46	TG spring M (F)
82	9421 00 00	P washer cut 1.2x3x0.25
83	1880 05 503	T gear arm (R) ass
84	1880 05 47	TG spring M (R)
85		
to	Not used.	
87		
88	1880 04 301	Pinch roller arm (F) ass
89	1880 04 03	P arm (F) spring
90	1880 04 302	Pinch roller arm (R) ass
91	1880 04 04	P arm (R) spring
92		
to	Not used.	
94		
95	1880 09 307	Flywheel (F) ass
96	1880 09 08	Flywheel metal ass (F)
97	9182 00 00	C tapping screw M2x6
98	9999 70 07	HL washer cut 1.8x4x0.5
99	9999 60 03	HL washer 2.3x3.8x0.3
100	1880 09 308	Flywheel (R) ass
101	1880 09 21	Flywheel metal ass (R)
102	9999 70 06	HL washer cut 1.55x3.5x0.5
103	9999 60 02	HL washer 2.1x3.5x0.3
104	9279 00 00	C tapping screw M2x3
105	9W17 00 030	Wave washer
106	Not used.	
107	Not used.	
108	1880 53 107	PC board
109	6401 01 173	Leaf switch MTS-10250MVJO
110	6401 01 188	Leaf switch MSW-1699CF
111	6401 01 189	Leaf switch MSW-17944MVDO
112	6804 06 04	Hall IC LB9050TN
113	1880 53 03	IC protector
114	6815 02 03	Connector TXL-P09PM1 (C1)
115	Not used.	
116	Not used.	
117	1880 13 30	Eject lever
118	1880 13 32	Eject lever spring
119	1880 13 11	E kick lever collar
120	9999 20 20	S tapping tams screw M2x5
121	1865 02 66	Relay board (C2)
122	6204 06 06	Head HD425569 (C2)
123	6815 02 06	Connector TXL-P12PM1 (C2)
	CABINET	
201	2940-606-0-00	Mecha ass (C1)
202	2940-607-0-00	Mecha ass (C2)
203	0974-355-2-08	Screw, SEI3 BT2.0x2.0-SBK
204	2501-866-0-00	Foot
205	2940-600-0-01	Sub panel ass
206	2940-604-0-01	Operation panel ass
207	2940-601-0-01	Lid panel L ass (C1)
208	2940-602-0-01	Lid panel R ass (C2)
209	2940-603-0-01	Back panel ass
210	2940-106-0-00	Mecha supporter
211	2940-108-0-00	Cassette holder set
212	2940-130-0-00	Gear arm
213	2940-131-0-00	Damper supporter
214	2940-134-0-00	Eject arm set
215	2940-145-0-00	Pivot base A set
216	2940-149-0-00	Pivot base B set

SYMBOL No.	PART No.	DESCRIPTION
217	2940-147-0-00	Pivot base C set
218	2940-150-0-00	Pivot base D set
219	2940-180-0-00	Cassette spring
220	2940-310-0-00	Damper
221	2940-421-0-00	Spiral spring
222	2940-422-0-00	Extension spring
223	0977-220-0-63	DT screw, P2x6-SBK
224	0974-355-3-09	Screw, SEI3, BT2.0x3.0-SN
225	0974-355-4-07	Screw, SEI3, ST2.0x4.0-SK
226	2940-535-0-00	Wire connector 9P (C1)
227	2940-536-0-00	Wire connector 12P (C2)
228	2501-881-0-00	Foot R
229	2940-811-0-00	Bottom chassis
230	2940-812-0-01	Metal case
231	2940-873-0-01	Slide knob
232	2940-874-0-01	Eject button
233	2940-880-0-00	LED cover
234	0981-102-0-14	E ring, ZR2-SU
235	0972-430-0-51	Screw, P3x5-SN-WS
236	0972-730-0-63	ST screw, B3x6-SBK
237	0972-730-0-65	ST screw, B3x6-SK
238	0973-230-0-83	BT screw, B3x8-SBK
239	0973-230-0-85	BT screw, B3x8-SK

DISASSEMBLY INSTRUCTIONS

POWER AMPLIFIER

1. Remove six screws Ⓐ holding the metal case.
2. Remove five screws Ⓑ holding the sub panel assembly.
3. Remove three screws Ⓒ holding the power meter PWB.
4. Remove two screws Ⓓ holding the heat sink cover assembly.
5. Remove fifteen screws Ⓔ holding the power amplifier PWB and back panel.
6. Remove four screws Ⓕ holding the power transformer.

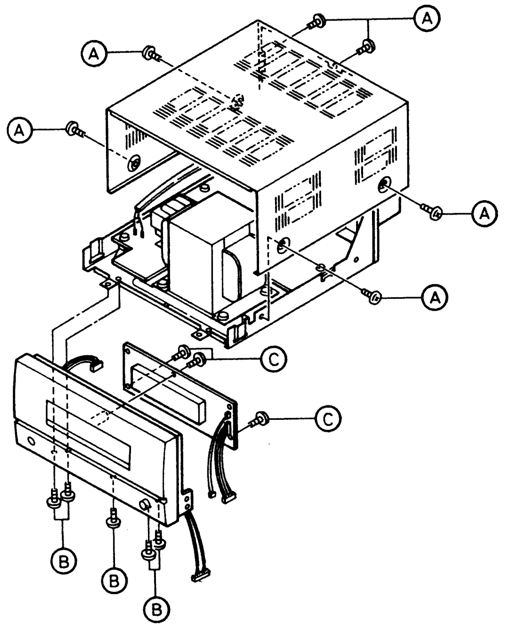


Figure 1

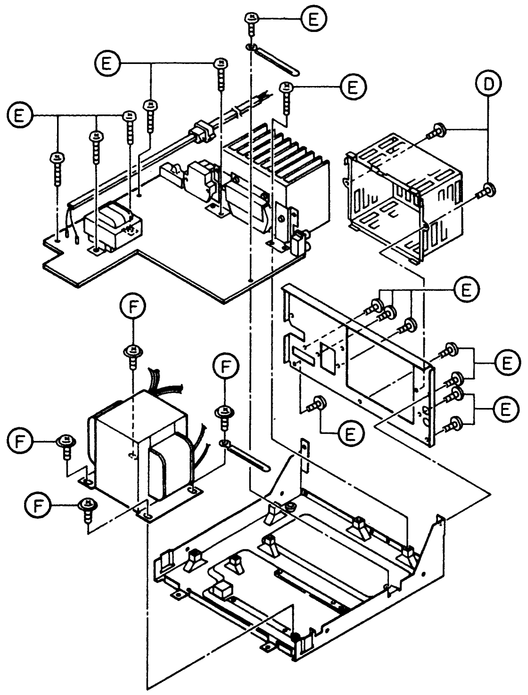


Figure 2

ADJUSTMENT

Power Meter Adjustment (Figures 3, 4 and 5)

Step	Connect	Setting	Adjust	Remarks
1	Connect a Audio Signal Generator to the "AUX" terminals of Pre-Tuner section.	1 kHz 200mV		"AUX" mode
2	Adjust the level of the Audio Signal Generator.	2.5V at speaker terminals. L/R		
3	Adjust the level until the 3W line of FL Meter become just "OFF"	Lch	VR401	• See Figures 3, 4 and 5.
		Rch	VR402	

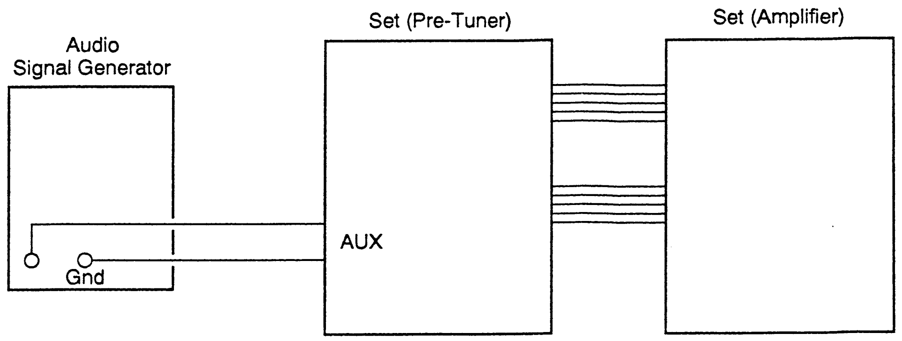

Audio Signal Generator
Set (Pre-Tuner)
Set (Amplifier)
AUX
Gnd

Figure 3

Power Meter PWB Top View

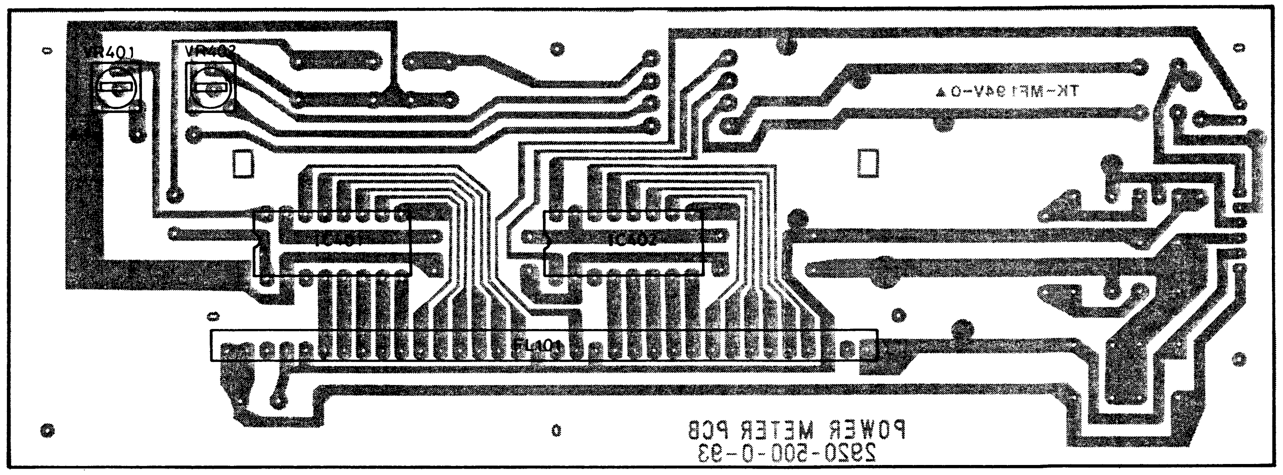

VR401
VR402
IC401
IC402
FL401
TK-MF1 94V-0
POWER METER PCB
2920-500-0-93

Figure 4

Power Meter

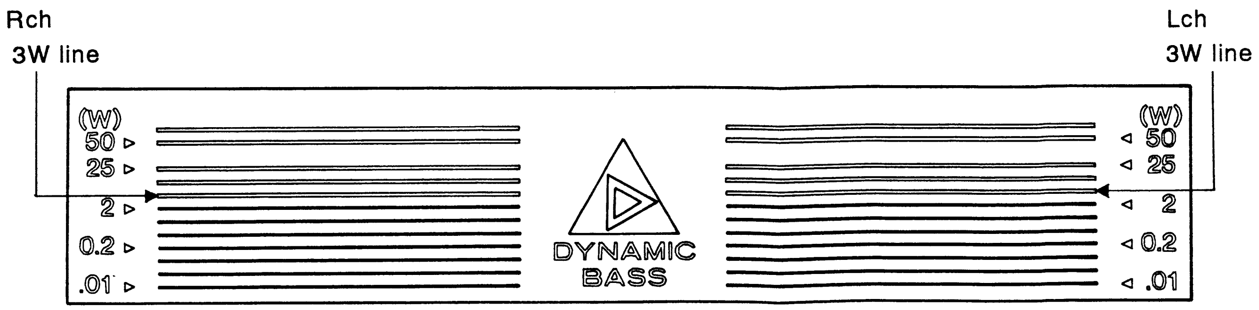
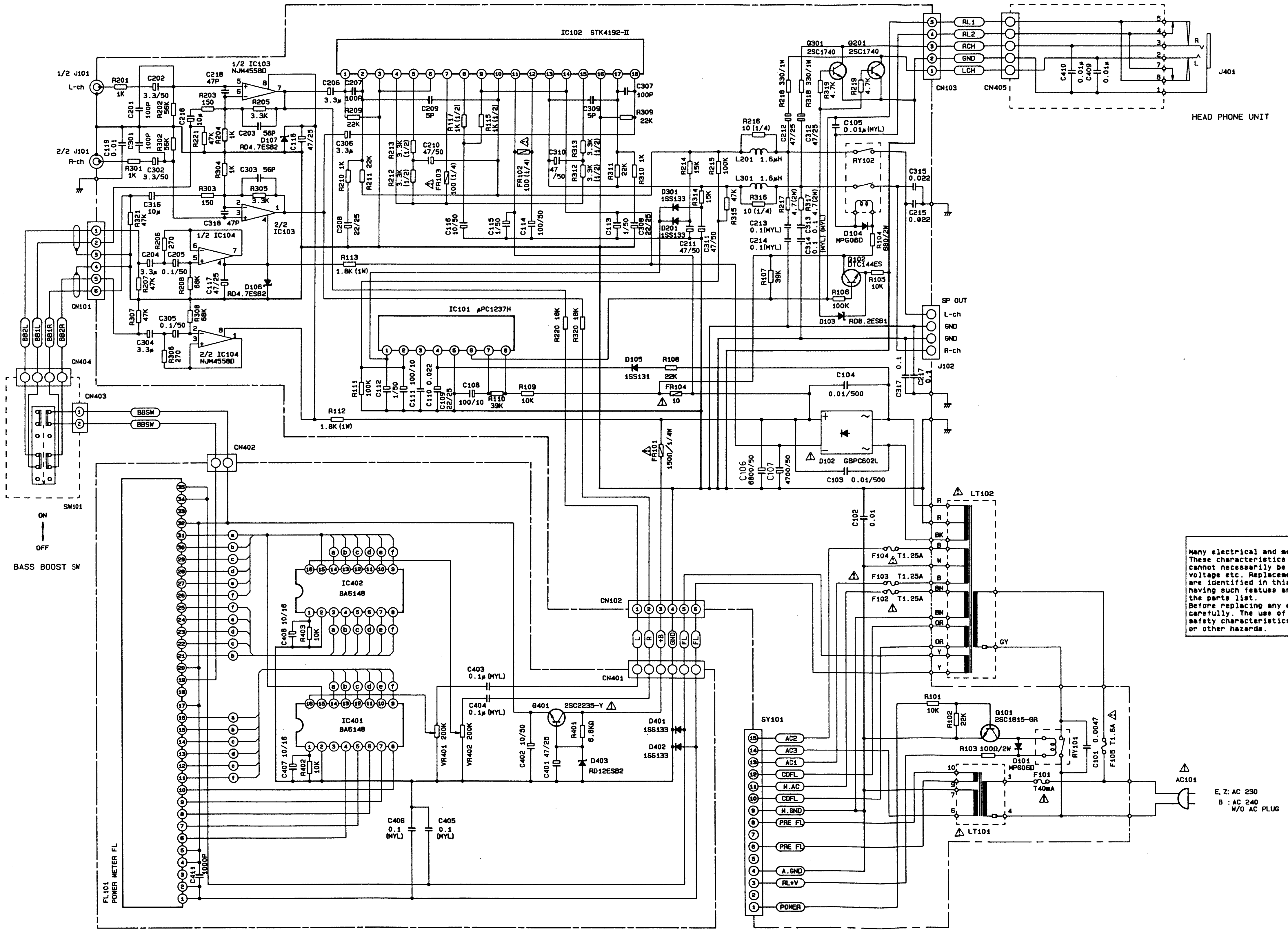

Rch
3W line
Lch
3W line
(W)
50
25
2
0.2
.01
DYNAMIC
BASS

Figure 5

SCHEMATIC DIAGRAM

Power Amplifier


1/2 J101 L-ch
2/2 J101 R-ch
IC102 STK4192-II
1/2 IC103 NJM4558D
2/2 IC103
1/2 IC104
2/2 IC104 NJM4558D
IC101 μPC1237H
IC402 BA6148
IC401 BA6148
Q301 2SC1740
Q201 2SC1740
Q102 DTC144ES
Q401 2SC2235-Y
Q101 2SC1815-GR
D102 GBPC602L
D104 MPG06D
D101 MPG06D
D103 RD8.2ESB1
D105 1SS131
D401 1SS133
D402 1SS133
D403 RD12ESB2
D106 RD4.7ESB2
D107 RD4.7ESB2
D301 1SS133
D201 1SS133
RY101
RY102
LT101
LT102
F101 T40mA
F102 T1.25A
F103 T1.25A
F104 T1.25A
F105 T1.6A
VR401 200K
VR402 200K
CN101
CN102
CN103
CN401
CN402
CN403
CN404
CN405
J102
J401
HEAD PHONE UNIT
SP OUT
L-ch
GND
GND
R-ch
RL1
RL2
RCH
GND
LCH
BBSW
BB2L
BB1L
BB1R
BB2R
SW101
ON
OFF
BASS BOOST SW
SY101
AC2
AC3
AC1
CDFL
M.AC
CDFL
M.GND
PRE FL
PRE FL
A.GND
RL+V
POWER
FL101 POWER METER FL
AC101
E, Z: AC 230
B : AC 240
W/O AC PLUG

ICs Voltage [V]

	IC101	IC102	IC103	IC104	IC401	IC402
1	0	0	0	0	0	0
2	0	-0.1	0	0	0	0
3	0	0	0	0	0	0
4	1.9	-38	-4.8	-4.8	0	0
5	0	-1.4	0	0	0	0
6	0.8	0	0	0	0	0
7	2.2	-40	0	0	0	0
8	3.4	-40	4.9	4.9	0	0
9		-41			0	0
10		0			0	0
11		40			0	0
12		39			0	0
13		0			0	0
14		-41			0	0
15		-1.3			11.5	11.5
16		0			0	0
17		0				
18		0				

Transistors Voltage [V]

	B	C	E
Q101	0.7	0.6	-0.1
Q102	0	40	0.01
Q201	0	0	0
Q301	0	0	0
Q401	12	37	11.4

PRODUCT SAFETY NOTICE

Many electrical and mechanial parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacements components rated for higher voltage etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such featues are idintified by ⚠ in the schematic diagrams and the parts list.

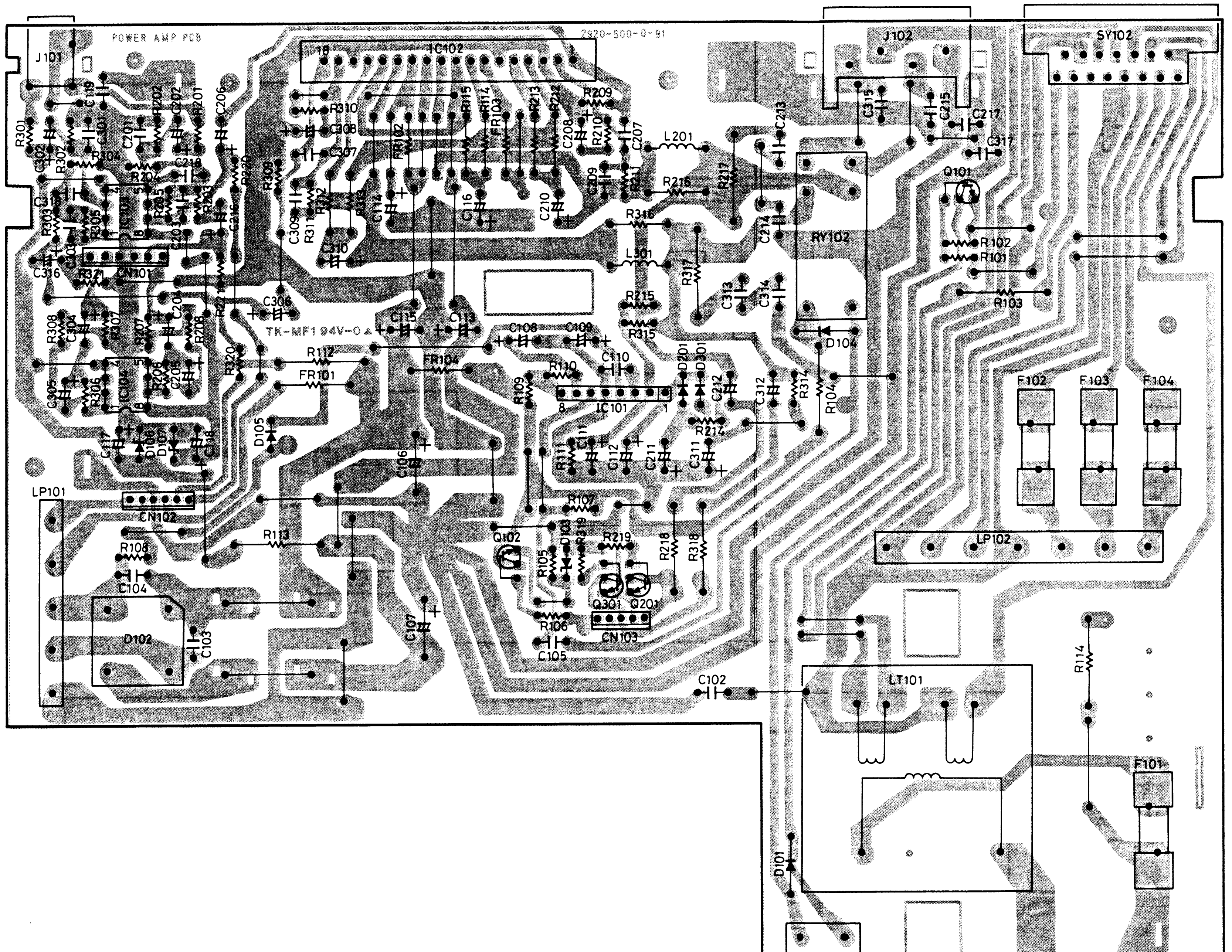
Before replacing any of these components. read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock. fire. or other hazards.

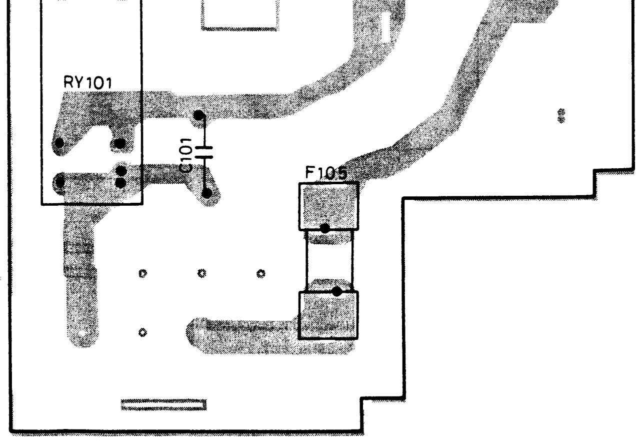
Make leakage current or resistande mesurments to betermine that exposed metal parts are acceptably insulated from the supply circuit before retuning the appliance to the customer.

Leakage current from microphone jack and battery terminals should not exceed 0.7 mA as measured through a 2.0 kohm resistor paralleled by a 0.15 mfd capacitor to the earth ground.

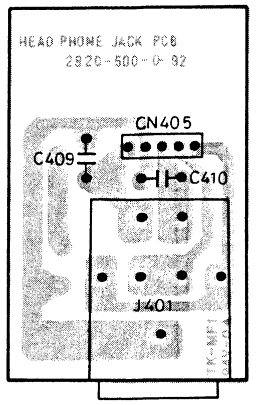
PWB BOTTOM VIEW

Power Amplifier

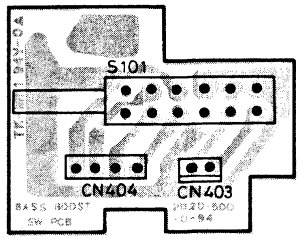

POWER AMP PCB
2920-500-0-91
J101
IC402
J102
SY102
TK-MF1 94V-0
IC101
CN101
CN102
CN103
LP101
LP102
RY102
D102
Q101
Q102
Q301
Q201
F102
F103
F104
L201
L301
R102
R101
R103
R104
R107
R108
R110
R112
R113
FR101
FR102
FR103
FR104
C102
C103
C104
C105
C106
C107
C108
C109
C110
D104
D105
D201
D301
R214
R215
R216
R217
R218
R219
R315
R316
R317
R318
R320
C306
C310
C312
C313
C314
C316


LT101
R114
F101
D101
RY101
C101
F105

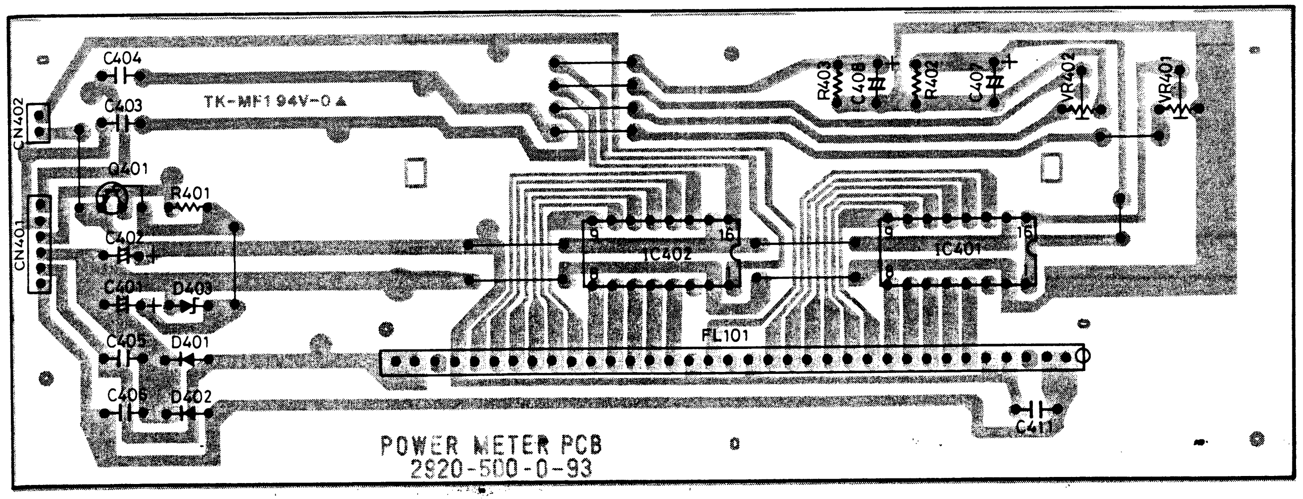
Headphone


HEAD PHONE JACK PCB
2920-500-0-92
CN405
C409
C410
J401

Bass Boost Switch


S101
CN404
CN403
BASS BOOST SW PCB
2920-500-0-94

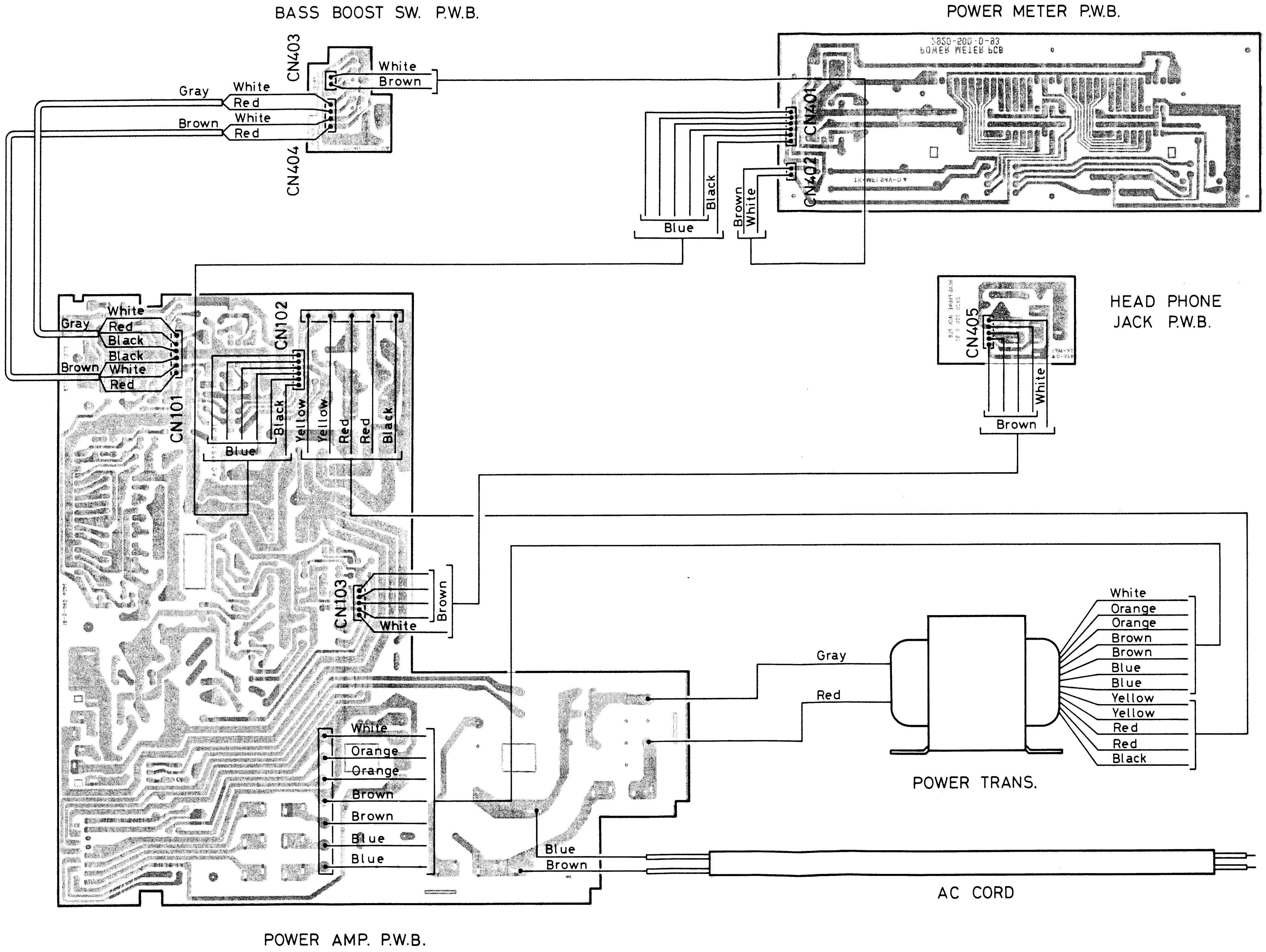
Power Meter


C404
C403
TK-MF1 94V-0
CN402
CN401
Q401
R401
C402
C401
D403
C405
D401
C406
D402
R403
C408
R402
C407
VR402
VR401
IC402
IC401
FL101
C411
POWER METER PCB
2920-500-0-93

NOTE
The Original PWB Top View.
Electrical capacitors: ● mark is plus side.

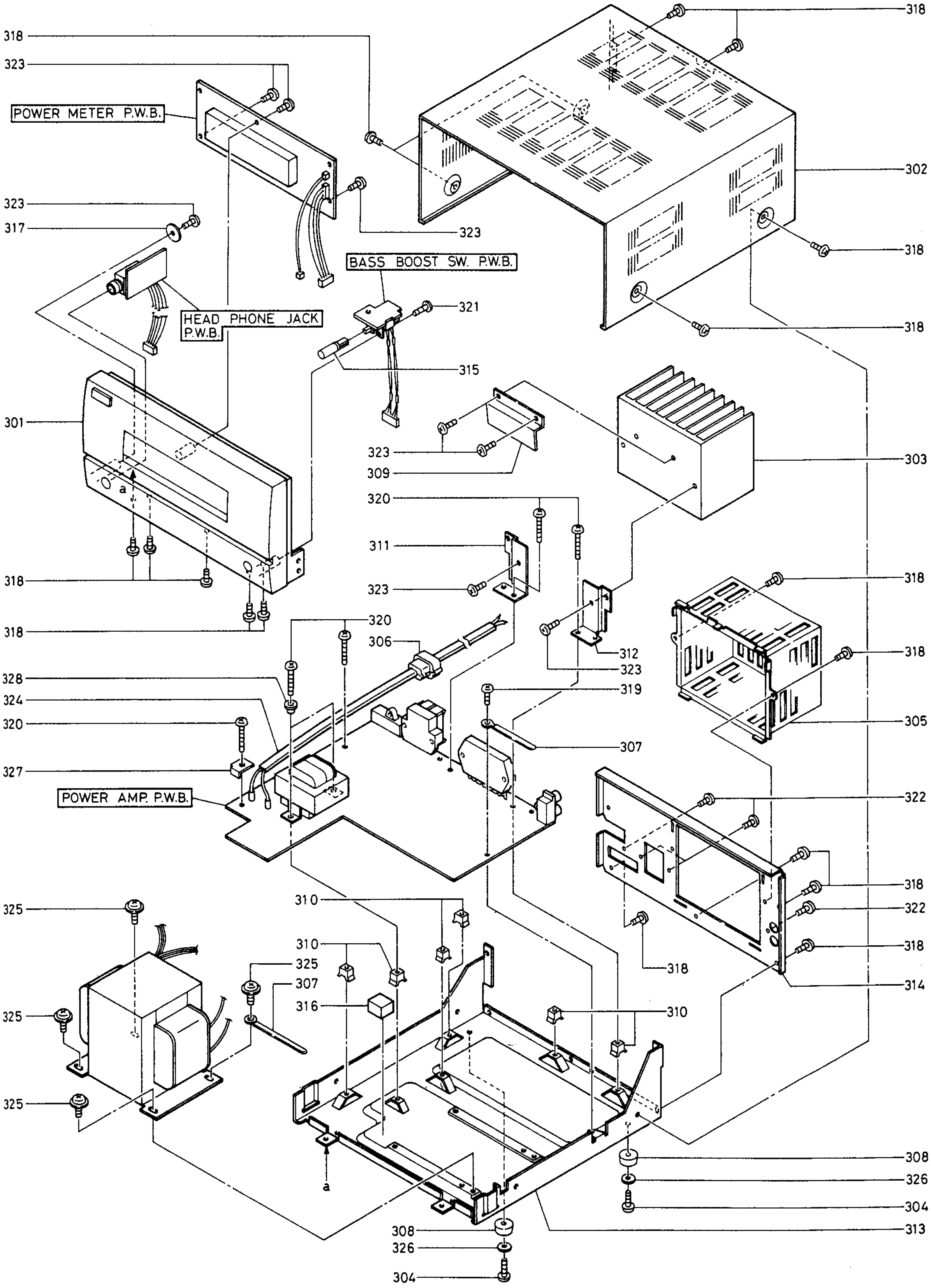
WIRING DIAGRAM

Power Amplifier


BASS BOOST SW. P.W.B.
CN403
CN404
White
Brown
Gray
White
Red
Brown
White
Red
POWER METER P.W.B.
POWER METER PCB
CN401
CN402
Black
Blue
Brown
White
HEAD PHONE JACK P.W.B.
CN405
White
Brown
CN101
CN102
White
Gray
Red
Black
Black
Brown
White
Red
Black
Yellow
Yellow
Red
Red
Black
Blue
CN103
Brown
White
White
Orange
Orange
Brown
Brown
Blue
Blue
Blue
Brown
Gray
Red
White
Orange
Orange
Brown
Brown
Blue
Blue
Yellow
Yellow
Red
Red
Black
POWER TRANS.
AC CORD
POWER AMP. P.W.B.

EXPLODED VIEW

Power Amplifier Cabinet


318
323
POWER METER P.W.B.
323
317
323
HEAD PHONE JACK P.W.B.
301
a
318
318
328
324
320
327
POWER AMP. P.W.B.
325
325
325
BASS BOOST SW. P.W.B.
321
315
323
309
320
311
323
320
306
312
323
319
307
310
310
325
307
316
310
318
a
308
326
304
318
302
318
318
303
318
318
305
322
318
322
318
314
308
326
304
313

PARTS LIST

Power Amplifier

SYMBOL No.	PART No.	DESCRIPTION
PWB ASSEMBLY		
	2920-605-0-00	Power amplifier PWB ass [for E(BS)]
	2920-604-0-00	Power amplifier PWB ass [for E, E(Z)] (with Headphone jack PWB, Power meter PWB, Bass boost switch PWB)
CAPACITORS		
C101	0039-922-0-00	CK, 4700 PF 125V/250V
C102	0931-551-0-39	CD, 0.01 μF +80/-20% 50V
C103	0931-481-0-39	CD, 0.01 μF +80/-20% 500V
C104	0931-481-0-39	CD, 0.01 μF +80/-20% 500V
C105	9335-451-0-34	MF, 0.01 μF ±5% 50V
C106	0939-925-8-00	LP, 6800 μF ±20% 50V
C107	0939-925-9-00	LP, 4700 μF ±20% 50V
C108	0937-811-0-16	EL, 100 μF ±20% 10V
C109	0937-832-2-06	EL, 22 μF ±20% 25V
C110	0933-452-2-34	CF, 0.022 μF ±5% 50V
C111	0937-811-0-16	EL, 100 μF ±20% 10V
C112	0937-850-1-06	EL, 1 μF ±20% 50V
C113	0937-850-1-06	EL, 1 μF ±20% 50V
C114	0937-851-0-16	EL, 100 μF ±20% 50V
C115	0937-850-1-06	EL, 1 μF ±20% 50V
C116	0937-851-0-06	EL, 10 μF ±20% 50V
C117	0937-834-7-06	EL, 47 μF ±20% 25V
C118	0937-834-7-06	EL, 47 μF ±20% 25V
C119	0931-551-0-39	CD, 0.01 μF +80%/-20% 50V
C200	Not used.	
C201	9301-451-0-15	CC, 100 PF ±10% 50V
C202	0937-853-3-86	EL, 3.3 μF ±20% 50V
C203	0930-205-6-04	CC, 56 PF ±5% 50V
C204	0937-853-3-86	EL, 3.3 μF ±20% 50V
C205	0937-851-0-96	EL, 0.1 μF ±20% 50V
C206	0937-853-3-86	EL, 3.3 μF ±20% 50V
C207	9301-451-0-15	CC, 100 PF ±10% 50V
C208	0937-832-2-06	EL, 22 μF ±20% 25V
C209	9301-150-5-01	CC, 5 PF ±0.5 PF 50V
C210	0937-854-7-06	EL, 47 μF ±20% 50V
C211	0937-854-7-06	EL, 47 μF ±20% 50V
C212	9363-234-7-06	EL, 47 μF ±20% 25V
C213	9335-451-0-44	MF, 0.1 μF ±5% 50V
C214	9335-451-0-44	MF, 0.1 μF ±5% 50V
C215	0931-552-2-39	CD, 0.022 μF +80/-20% 50V [for E(BS)]
	0931-452-2-39	CD, 0.022 μF +80/-20% 50V [for E, E(Z)]
C216	0937-851-0-06	EL, 10 μF ±20% 50V
C217	0939-904-7-00	CD, 0.1 μF +80/-20% 50V [for E(BS)]
	0939-900-7-00	CD, 0.1 μF +80/-20% 50V [for E, E(Z)]
C218	0930-204-7-04	CD, 47 PF ±5% 50V
C219 to C300	Not used.	
C301	9301-451-0-15	CC, 100 PF ±10% 50V
C302	0937-853-3-86	EL, 3.3 μF ±20% 50V
C303	0930-205-6-04	CD, 56 PF ±5% 50V
C304	0937-853-3-86	EL, 3.3 μF ±20% 50V
C305	0937-851-0-96	EL, 0.1 μF ±20% 50V
C306	0937-853-3-86	EL, 3.3 μF ±20% 50V
C307	9301-451-0-15	CC, 100 PF ±10% 50V
C308	0937-832-2-06	EL, 22 μF ±20% 25V
C309	9301-150-5-01	CC, 5 PF ±0.5 PF 50V
C310	0937-854-7-06	EL, 47 μF ±20% 50V
C311	0937-854-7-06	EL, 47 μF ±20% 50V
C312	9363-234-7-06	EL, 47 μF ±20% 25V
C313	9335-451-0-44	MF, 0.1 μF ±5% 50V
C314	9335-451-0-44	MF, 0.1 μF ±5% 50V
C315	0931-552-2-39	CD, 0.022 μF +80/-20% 50V [for E(BS)]
	0931-452-2-39	CD, 0.022 μF +80/-20% 50V [for E, E(Z)]
C316	0937-851-0-06	EL, 10 μF ±20% 50V
C317	0939-904-7-00	CD, 0.1 μF +80/-20% 50V [for E(BS)]
	0939-900-7-00	CD, 0.1 μF +80/-20% 50V [for E, E(Z)]
C318	0930-204-7-04	CD, 47 PF ±5% 50V
C319 to C400	Not used.	
C401	0937-834-7-06	EL, 47 μF ±20% 25V
C402	0937-851-0-06	EL, 10 μF ±20% 50V
C403	9335-451-0-44	MF, 0.1 μF ±5% 50V
C404	9335-451-0-44	MF, 0.1 μF ±5% 50V
C405	9335-451-0-44	MF, 0.1 μF ±5% 50V
C406	9335-451-0-44	MF, 0.1 μF ±5% 50V
C407	0936-321-0-06	EL, 10 μF ±20% 16V
C408	0936-321-0-06	EL, 10 μF ±20% 16V
C409	0933-451-0-34	CF, 0.01 μF ±5% 50V
C410	0933-451-0-34	CF, 0.01 μF ±5% 50V
C411	9301-451-0-25	CC, 1000 PF ±10% 50V
RESISTORS		
R101	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R102	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R103	0925-441-0-14	RS, 100 ohm ±5% SRD 2P
R104	0925-446-8-14	RS, 680 ohm ±5% SRD 2P
R105	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R106	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R107	0920-863-9-34	CF, 39k ohm ±5% SRD 1/6P
R108	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R109	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R110	0920-863-9-34	CF, 39k ohm ±5% SRD 1/6P
R111	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R112	0925-431-8-24	RS 1.8k ohm ±5% SRD 1P
R113	0925-431-8-24	RS, 1.8k ohm ±5% SRD 1P
R114	Not used.	
R115	0921-521-0-24	CF, 1k ohm ±5% SRD 1/2P
R116	Not used.	
R117	0921-521-0-24	CF, 1k ohm ±5% SRD 1/2P
R118 to R200	Not used.	
R201	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R202	0920-865-6-34	CF, 56k ohm ±5% SRD 1/6P
R203	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R204	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R205	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R206	0920-862-7-14	CF, 270 ohm ±5% SRD 1/6P
R207	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R208	0920-866-8-34	CF, 68k ohm ±5% SRD 1/6P
R209	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R210	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R211	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R212	0921-523-3-24	CF, 3.3k ohm ±5% SRD 1/2P
R213	0921-523-3-24	CF, 3.3k ohm ±5% SRD 1/2P
R214	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P
R215	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R216	0920-811-0-04	CF, 10 ohm ±5% SRD 1/4P
R217	0925-444-7-84	RS, 4.7 ohm ±5% SRD 1P
R218	0925-433-3-14	RS, 330 ohm ±5% SRD 1P

SYMBOL No.	PART No.	DESCRIPTION
R219	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R220	0920-861-8-34	CF, 18k ohm ±5% SRD 1/6P
R221	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R222 to R300	Not used.	
R301	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R302	0920-865-6-34	CF, 56k ohm ±5% SRD 1/6P
R303	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R304	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R305	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R306	0920-862-7-14	CF, 270 ohm ±5% SRD 1/6P
R307	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R308	0920-866-8-34	CF, 68k ohm ±5% SRD 1/6P
R309	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R310	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R311	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R312	0921-523-3-24	CF, 3.3k ohm ±5% SRD 1/2P
R313	0921-523-3-24	CF, 3.3k ohm ±5% SRD 1/2P
R314	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P
R315	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R316	0920-811-0-04	CF, 10 ohm ±5% SRD 1/4P
R317	0925-444-7-84	RS, 4.7 ohm ±5% SRD 1P
R318	0925-433-3-14	RS, 330 ohm ±5% SRD 1P
R319	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R320	0920-861-8-34	CF, 18k ohm ±5% SRD 1/6P
R321	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R322 to R400	Not used.	
R401	0920-866-8-24	CF, 6.8k ohm ±5% SRD 1/6P
R402	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R403	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
⚠FR101	0921-111-5-14	CF, 150 ohm ±5% SRD 1/4P
⚠FR102	0921-111-0-14	CF, 100 ohm ±5% SRD 1/4P
⚠FR103	0921-111-0-14	CF, 100 ohm ±5% SRD 1/4P
⚠FR104	0921-111-0-04	CF, 10 ohm ±5% SRD 1/4P
COILS		
L201	0013-121-0-00	Coil W/O core
L301	0013-121-0-00	Coil W/O core
DIODES		
D101	0915-005-2-00	MPG06B
	or 0915-005-2-04	MPG06D
⚠D102	0913-011-7-02	DR GBPC602L-6398
D103	0915-008-5-02	RD8.2ESB2
	or 0915-008-5-01	RD8.2ESB1
D104	0915-005-2-00	MPG06B
	or 0915-005-2-04	MPG06D
D105	0915-008-6-00	1SS131
D106	0915-009-8-02	RD4.7ESB2
	or 0915-009-8-03	RD4.7ESB3
D107	0915-009-8-02	RD4.7ESB2
	or 0915-009-8-03	RD4.7ESB3
D201	0915-003-9-00	1SS133
D301	0915-003-9-00	1SS133
D401	0915-003-9-00	1SS133
D402	0915-003-9-00	1SS133
D403	0915-010-5-02	RD12ESB2
ICS and TRANSISTORS		
IC101	0911-153-3-00	UPC1237H
IC102	0911-153-8-00	STK4192II
IC103	0911-080-9-00	BA4558
	or 0911-006-1-00	NJM4558D

SYMBOL No.	PART No.	DESCRIPTION
IC104	0911-006-1-00	NJM4558D
	or 0911-080-9-00	BA4558
IC401	0911-152-9-00	BA6148
IC402	0911-152-9-00	BA6148
Q101	0906-200-4-55	2SC1815-GR
Q102	0906-208-5-00	BA1L4M
	or 0906-208-9-00	DTC144ES
Q201	0906-203-3-19	2SC1740S-S
Q301	0906-203-3-19	2SC1740S-S
⚠Q401	0906-229-1-25	2SC2235-Y
JACKS		
J101	0034-005-0-00	Pin 2P
J102	0034-003-0-00	Speaker terminal 4 pin [for E(BS)]
	0033-263-0-00	Speaker terminal 4 pin [for E, E(Z)]
J401	0033-869-0-00	6.3 mm
SWITCH		
SW101	0028-036-0-00	Push, SPPJ24
VARIABLE RESISTORS		
VR401	0031-837-2-04	SF volume control, 200k ohm
	or 0031-835-2-04	SF volume control, 200k ohm
VR402	0031-835-2-04	SF volume control, 200k ohm
	or 0031-837-2-04	SF volume control, 200k ohm
CONNECTORS		
CN101	0034-700-0-06	Pin, 6 pin
CN102	0034-755-0-06	Pin, 6 pin
CN103	0034-755-0-05	Pin, 5 pin
CN401	2920-523-0-00	Pin, 6 pin
CN402	2920-521-0-00	Pin, 2 pin
CN403	0034-755-0-02	Pin, 2 pin
CN404	2920-520-0-00	Pin, 6 pin
CN405	2920-522-0-00	Pin, 5 pin
LP101	0034-739-0-05	Connector pin, 5 pin
LP102	0034-739-0-07	Connector pin, 7 pin
SY101	0034-007-0-15	System connector pin, 15P
FUSES		
⚠F101	0045-093-0-40	Fuse, T. 40MA/250V
⚠	or 0045-093-0-41	Fuse, T. 40MA/250V
⚠F102	0045-020-0-40	Fuse, 1.25A/T 250V
⚠	or 0045-020-0-41	Fuse, 1.25A/T 250V
⚠F103	0045-020-0-40	Fuse, 1.25A/T 250V
⚠	or 0045-020-0-41	Fuse, 1.25A/T 250V
⚠F104	0045-020-0-40	Fuse, 1.25A/T 250V
⚠	or 0045-020-0-41	Fuse, 1.25A/T 250V
⚠F105	0045-017-0-40	Fuse, 1.6A/T 250V
⚠	or 0045-017-0-41	Fuse, 1.6A/T 250V
OTHERS		
FL101	0040-608-0-00	Display, BJ056GK
⚠LT101	0019-438-0-00	Power trans EI48x19 [for E, E(Z)]
⚠	0019-441-0-00	Power trans EI48x19 [for E(BS)]
⚠LT102	0019-440-0-00	Power trans EI86x65 [for E(BS)]
⚠	0019-437-0-00	Power trans EI86x65 [for E, E(Z)]
RY101	0026-087-0-00	Relay, VSB-12MB-VD [for E(BS)]
	0026-088-0-00	Relay, VS-12MBU-5-VD9 [for E, E(Z)]

SYMBOL No.	PART No.	DESCRIPTION
RY102	0026-085-0-00	Relay, VB-24MBU-5-VD
ACCESSORIES		
⚠	0088-016-0-01	Remote controller
	2920-910-0-01	Gift box
	4000-920-0-01	Instruction booklet [for E, E(Z)]
	4000-920-0-02	Instruction booklet [for E(BS)]
	4000-530-0-00	System connector 9 pin
	4000-531-0-00	System connector 15 pin
	4000-550-0-00	Antenna holder
	4000-940-0-00	Packed screw
	2920-915-0-00	Mirror mat
	0046-904-0-00	Loop antenna
	0047-311-0-01	Pin cord
	0047-314-0-01	Pin cord
CABINET		
301	2920-600-0-01	Sub panel ass
302	2920-812-0-01	Metal case
303	2920-730-0-00	Heat sink
304	0972-730-0-65	ST screw B3x6-SK
305	2920-603-0-00	Heat sink cover ass
306	0064-665-0-00	Cord bushing
307	0065-373-0-00	Lead wire clamper
308	2501-866-0-00	Foot
309	1483-877-1-00	Pack holder
310	2380-880-0-00	PCB spacer
311	2920-136-0-00	Fin holder L
312	2920-137-0-00	Fin holder R
313	2920-811-0-00	Bottom chassis
314	2920-814-0-09	Back panel [for E(BS)]
	2920-814-0-08	Back panel [for E, E(Z)]
315	2920-861-0-01	Knob
316	2920-880-0-00	Cushion
317	0987-004-9-00	(Washer) W3.2x15x0.8
318	0972-730-0-63	ST screw B3x6-SBK
319	0972-730-0-85	ST screw B3x8-SK
320	0972-730-1-65	ST screw B3x16-SK
321	0972-926-0-65	PT screw P2.6x6-SK
322	0973-230-0-83	BT screw B3x8-SBK
323	0973-230-0-85	BT screw B3x8-SK
⚠324	0047-401-0-00	AC cord [for E(BS)]
⚠	0047-231-1-21	AC cord [for E, E(Z)]
325	0975-140-0-65	ST screw PF4x6-SK
326	2501-881-0-00	Foot R
327	2920-270-0-00	Protector
328	0064-689-0-00	Nylon insulator

DISASSEMBLY INSTRUCTIONS

PRE-AMPLIFIER/TUNER

1. Remove five screws Ⓐ holding the metal case.
2. Remove a screw Ⓑ and five screws Ⓒ holding the sub panel assembly.
3. Remove a screw Ⓓ holding the tone control PWB.
4. Remove three screws Ⓔ holding the shield plate and display PWB.

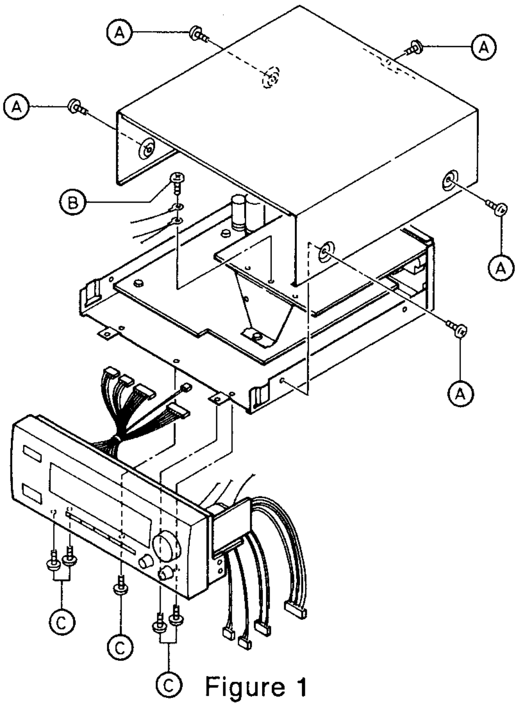


Figure 1

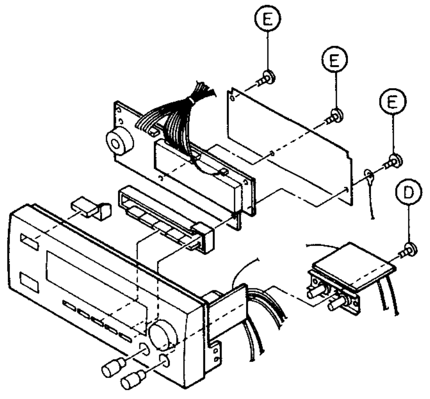


Figure 2

5. Remove four screws Ⓕ holding the Tuner PWB.
6. Remove eight screws Ⓖ holding the PCB supporter and pre-amplifier PWB.

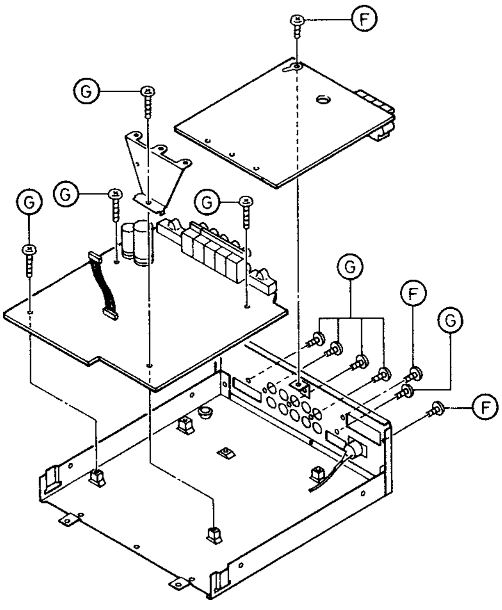


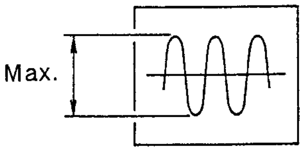
Figure 3

TUNER ALIGNMENT

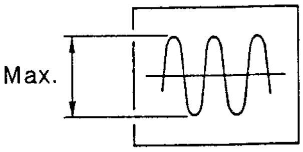
Equipment Required

1. AM S.G.
2. Loop Antenna
3. Output Meter
4. Oscilloscope
5. Frequency Counter
6. FM S.G.
7. Digital Multi Meter (DMM)
8. Dummy Load 47k Ω

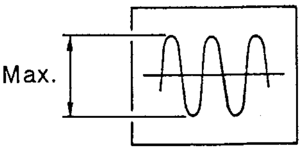
AM IF Alignment (Figures 4 and 5)

Step	Alignment	Frequency of Sweep Generator	Tuning Dial Setting	Adjustment	Remarks
	IF Calibration	999 kHz	999 kHz	L105	Obtain sine-wave and maximum amplitude. 

MW Alignment (Figures 4 and 5)

Step	Alignment	Frequency of Sweep Generator	Tuning Dial Setting	Adjustment	Remarks
1	Tuning Range Calibration	522 kHz	522 kHz	L103	Vt DMM1.1±0.1V
2					Obtain sine-wave and maximum amplitude. 
3	Adjustment of Tracking	603 kHz	603 kHz	L101	
4		1404 kHz	1404 kHz	TC101	
5	Repeat the above adjustment.				

LW Alignment (Figures 4 and 5)

Step	Alignment	Frequency of Sweep Generator	Tuning Dial Setting	Adjustment	Remarks
1	Tuning Range Calibration	153 kHz	153 kHz	L104	Vt DMM1.44±0.1V
2					Obtain sine-wave and maximum amplitude. 
3	Adjustment of Tracking	171 kHz	171 kHz	L102	
4		263 kHz	263 kHz	TC102	
5	Repeat the above adjustment.				

FM Alignment (Figures 4, 6, 7 and 8)

Step	Alignment	Frequency of Sweep Generator	Tuning Dial Setting	Adjustment	Remarks
1	IF Calibration	98.0 MHz	98.0 MHz	L106	DMM 0±30mV 60 dB µ
2	Tuning Range Calibration	87.5 MHz	87.5 MHz		Receive
3		108.0 MHz	108.0 MHz		
4	VCO	98.0 MHz	98.0 MHz	VR101	F. Counter 19.0 ±0.1 kHz Mode: AUTO 60 dB µ

Tuner PWB Top View

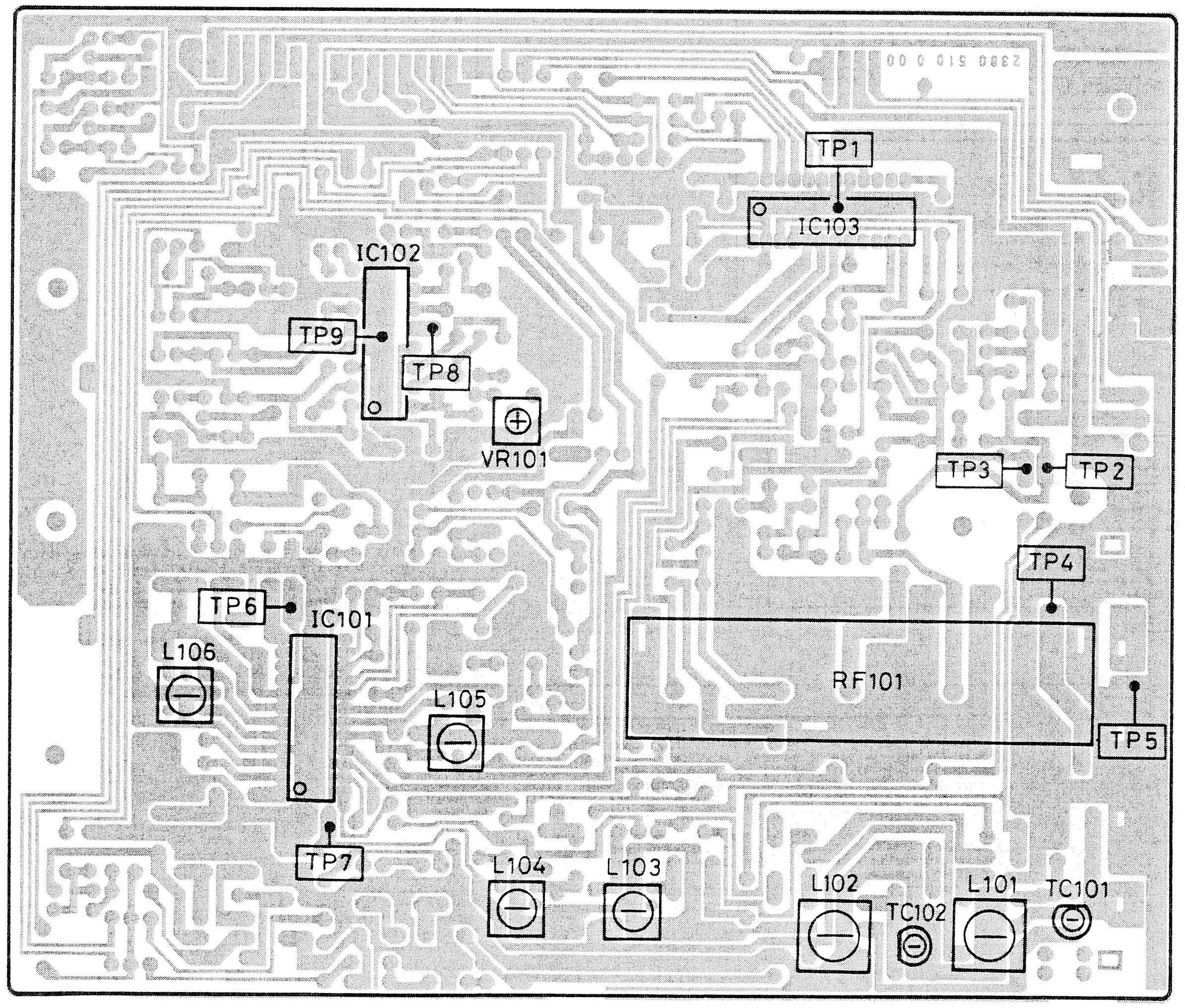

TP1
IC103
IC102
TP9
TP8
VR101
TP3
TP2
TP4
TP6
IC101
L106
L105
RF101
TP5
TP7
L104
L103
L102
TC102
L101
TC101

Figure 4

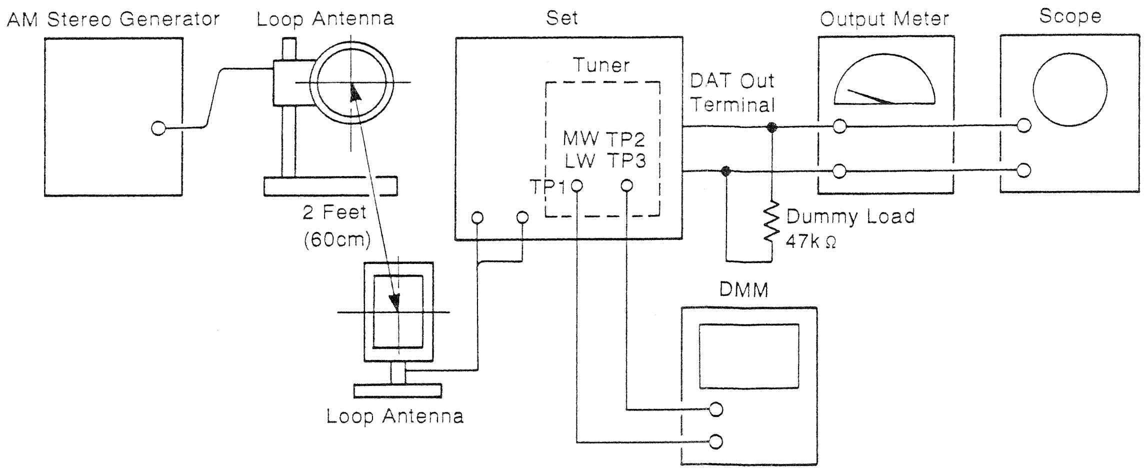

AM Stereo Generator
Loop Antenna
Set
Tuner
Output Meter
Scope
DAT Out Terminal
MW TP2
LW TP3
TP1
2 Feet (60cm)
Dummy Load 47k Ω
DMM
Loop Antenna

Figure 5

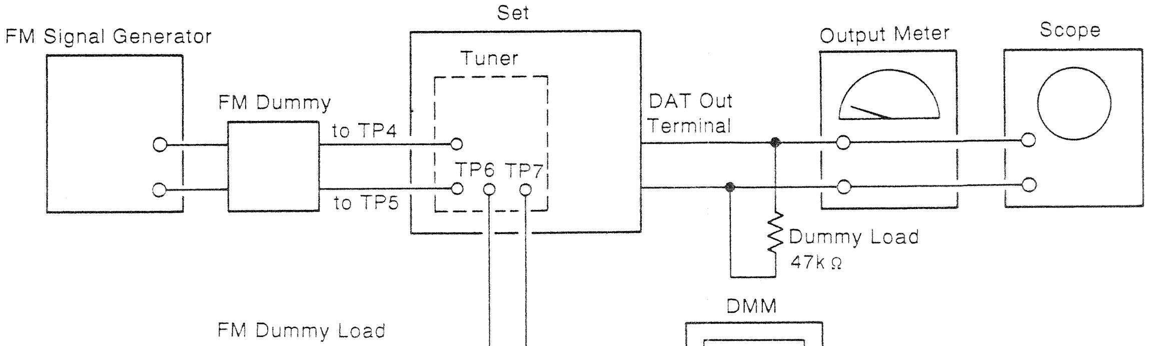
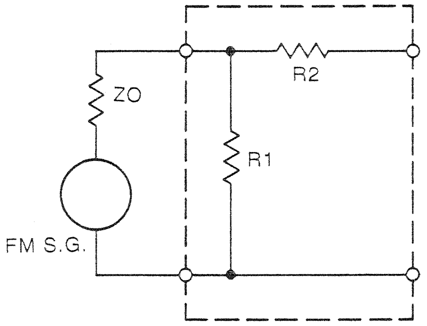

Set
FM Signal Generator
Tuner
FM Dummy
to TP4
to TP5
TP6 TP7
DAT Out Terminal
Output Meter
Scope
Dummy Load 47k Ω
DMM

Figure 6


FM Dummy Load
R2
ZO
R1
FM S.G.

R1=ZO ZO=Output impedance of FM SG.

R2=75 ohm-ZO/2

Figure 7

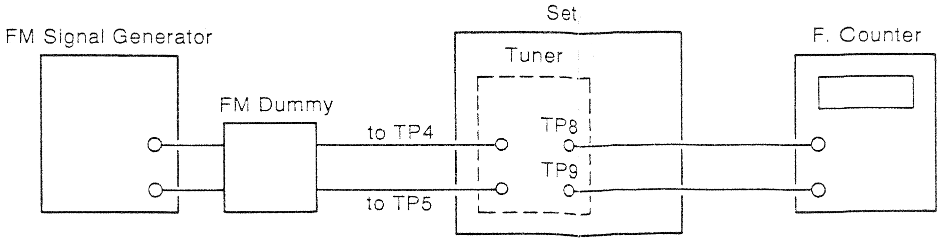
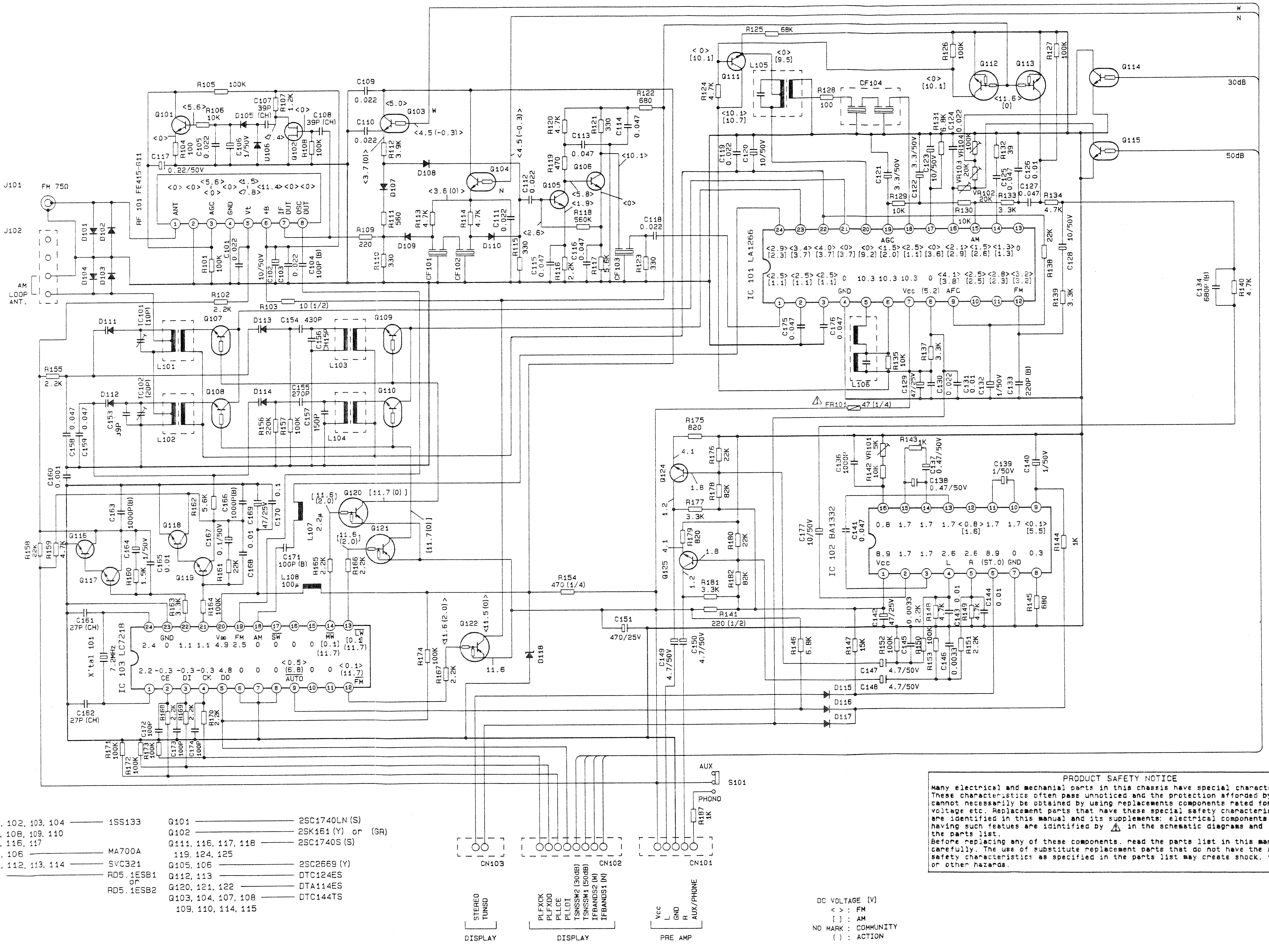

Set
FM Signal Generator
Tuner
F. Counter
FM Dummy
to TP4
to TP5
TP8
TP9

Figure 8

SCHEMATIC DIAGRAM

Tuner [for E, E(BS)]


J101
FM 75Ω
J102
AM LOOP ANT.
RF 101 FE415-G11
ANT
AGC
GND
Vt
+B
IF OUT
OSC OUT
IC 101 LA1266
IC 102 BA1332
IC 103 LC7218
X'tal 101 7.2MHz
CF101
CF102
CF103
CF104
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
Q113
Q114
Q115
Q116
Q117
Q118
Q119
Q120
Q121
Q122
Q124
Q125
L101
L102
L103
L104
L105
L106
L107
L108
30dB
50dB
W
N
FR101 47 (1/4)
AGC
AM
FM
GND
Vcc
AFC
CE
DI
CK
DO
AUTO
(ST.O)
AUX
S101
PHONO
R187 1K
CN103
CN102
CN101
STEREO
TUNSD
DISPLAY
PLFXCK
PLFXDO
PLLCE
PLLDI
TSNSSW2 (30dB)
TSNSSW1 (50dB)
IFBANDS2 (W)
IFBANDS1 (N)
DISPLAY
Vcc
L
GND
R
AUX/PHONE
PRE AMP

D101, 102, 103, 104 107, 108, 109, 110 115, 116, 117	1SS133
D105, 106	MA700A
D111, 112, 113, 114	SVC321
D118	RD5.1ESB1 or RD5.1ESB2
Q101	2SC1740LN (S)
Q102	2SK161 (Y) or (GR)
Q111, 116, 117, 118 119, 124, 125	2SC1740S (S)
Q105, 106	2SC2669 (Y)
Q112, 113	DTC124ES
Q120, 121, 122	DTA114ES
Q103, 104, 107, 108 109, 110, 114, 115	DTC144TS

DC VOLTAGE [V]
< > : FM
[ ] : AM
NO MARK : COMMUNITY
( ) : ACTION

Make leakage current or resistande mesurments to betermine that exposed metal parts are acceptably insulated from the supply circuit before retuning the appliance to the customer.

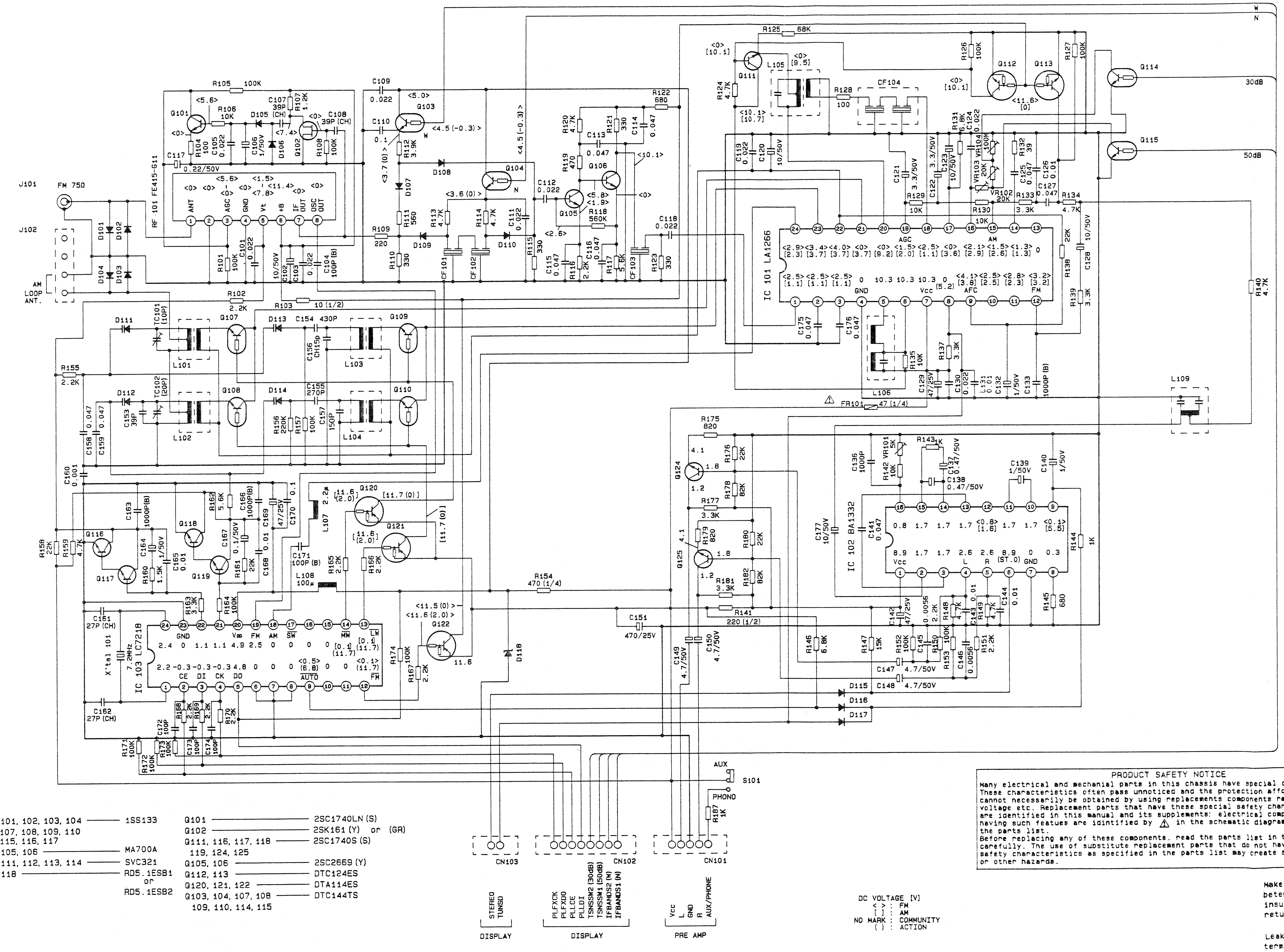
Leakage current from microphone jack and battery terminals should not exceed 0.7 mA as measured through a 2.0 kohm resistor paralleled by a 0.15 mfd capacitor to the earth ground.

PRODUCT SAFETY NOTICE

Many electrical and mechanial parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacements components rated for higher voltage etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such featues are idintified by ⚠ in the schematic diagrams and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

SCHEMATIC DIAGRAM

Tuner [for E(Z)]


J101
FM 75Ω
J102
AM LOOP ANT.
RF 101 FE415-611
ANT
AGC
GND
Vt
+B
IF OUT
OSC OUT
IC 101 LA1266
IC 102 BA1332
IC 103 LC7218
X'tal 101 7.2MHz
CF101
CF102
CF103
CF104
L101
L102
L103
L104
L105
L106
L107
L108
L109
FR101 47 (1/4)
S101
AUX
PHONO
CN101
CN102
CN103
STEREO
TUNSD
PLFXCK
PLFXDO
PLLCE
PLLDI
TSNSSW2 (30dB)
TSNSSW1 (50dB)
IFBANDS2 (W)
IFBANDS1 (N)
Vcc
L
GND
R
AUX/PHONE
DISPLAY
DISPLAY
PRE AMP
30dB
50dB
W
N
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
Q113
Q114
Q115
Q116
Q117
Q118
Q119
Q120
Q121
Q122
Q124
Q125

D101, 102, 103, 104 —— 1SS133
107, 108, 109, 110
115, 116, 117
D105, 106 —— MA700A
D111, 112, 113, 114 —— SVC321
D118 —— RD5.1ESB1
or
RD5.1ESB2

Q101 —— 2SC1740LN (S)
Q102 —— 2SK161 (Y) or (GR)
Q111, 116, 117, 118 —— 2SC1740S (S)
119, 124, 125
Q105, 106 —— 2SC2669 (Y)
Q112, 113 —— DTC124ES
Q120, 121, 122 —— DTA114ES
Q103, 104, 107, 108 —— DTC144TS
109, 110, 114, 115

DC VOLTAGE [V]
< > : FM
[ ] : AM
NO MARK : COMMUNITY
( ) : ACTION

PRODUCT SAFETY NOTICE

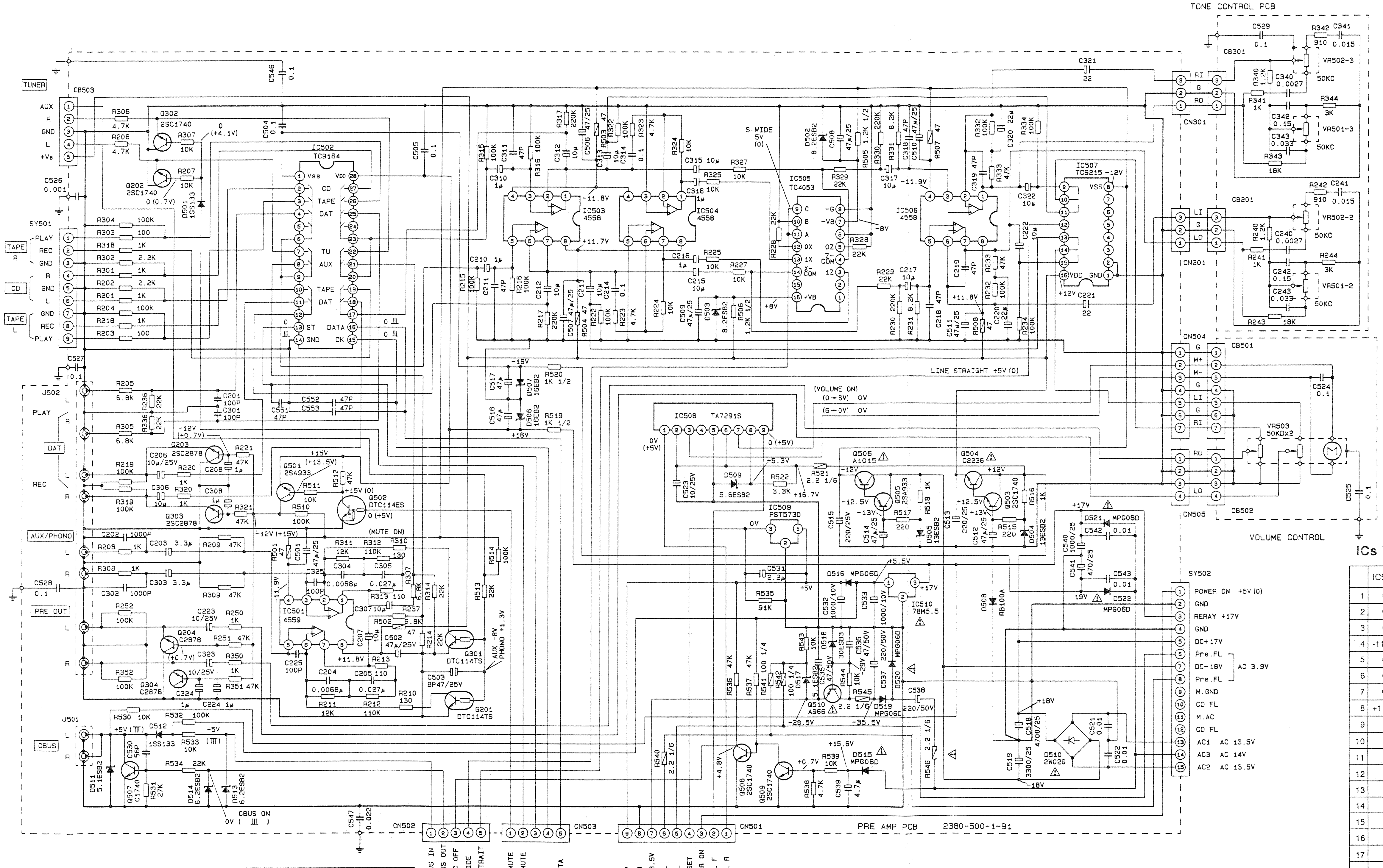
Many electrical and mechanial parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacements components rated for higher voltage etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such featues are idintified by ⚠ in the schematic diagrams and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Make leakage current or resistande mesurments to determine that exposed metal parts are acceptably insulated from the supply circuit before retuning the appliance to the customer.

Leakage current from microphone jack and battery terminals should not exceed 0.7 mA as measured through a 2.0 kohm resistor paralleled by a 0.15 mfd capacitor to the earth ground.

SCHEMATIC DIAGRAM

Pre-amplifier


TONE CONTROL PCB
CB301
CN301
CB201
CN201
VOLUME CONTROL
CB501
CN504
CB502
CN505
VR503 50KDx2
TUNER
CB503
SY501
TAPE
CD
DAT
AUX/PHOND
PRE OUT
CBUS
J501
J502
IC502 TC9164
IC503 4558
IC504 4558
IC505 TC4053
IC506 4558
IC507 TC9215
IC501 4559
IC508 TA7291S
IC509 PST573D
IC510 78M5.5
S-WIDE 5V (0)
LINE STRAIGHT +5V (0)
(VOLUME ON) (0 → 6V) 0V (6 → 0V) 0V
(MUTE ON)
CBUS ON 0V (Ⅲ)
SY502
POWER ON +5V (0)
GND
RERAY +17V
GND
DC+17V
Pre.FL
DC-18V
Pre.FL
AC 3.9V
M.GND
CD FL
M.AC
CD FL
AC1 AC 13.5V
AC3 AC 14V
AC2 AC 13.5V
CN502
CBUS IN
CBUS OUT
ACC OFF
SWIDE
LSTRAIT
CN503
A-MUTE
T-MUTE
ST
CK
DATA
CN501
+5V
GND
-28.5V
FL
FL
AC 3.7V
RESET
POWER ON
VOL F
VOL R
PRE AMP PCB 2380-500-1-91

PRODUCT SAFETY NOTICE

Many electrical and mechanial parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacements components rated for higher voltage etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such featues are idintified by ⚠ in the schematic diagrams and the parts list.

Before replacing any of these components. read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock. fire. or other hazards.

Make leakage current or resistance mesurements to determine that exposed metal parts are acceptably insulated from the supply circuit before returniig the appliance to the customer.

Leakage current from headphone jack should not exceed 0.5 mA as measured through a 1.5 Kohm resistor paralleled by a 0.15 mfd capacitor to the earth ground.

Transistors Voltage [V]

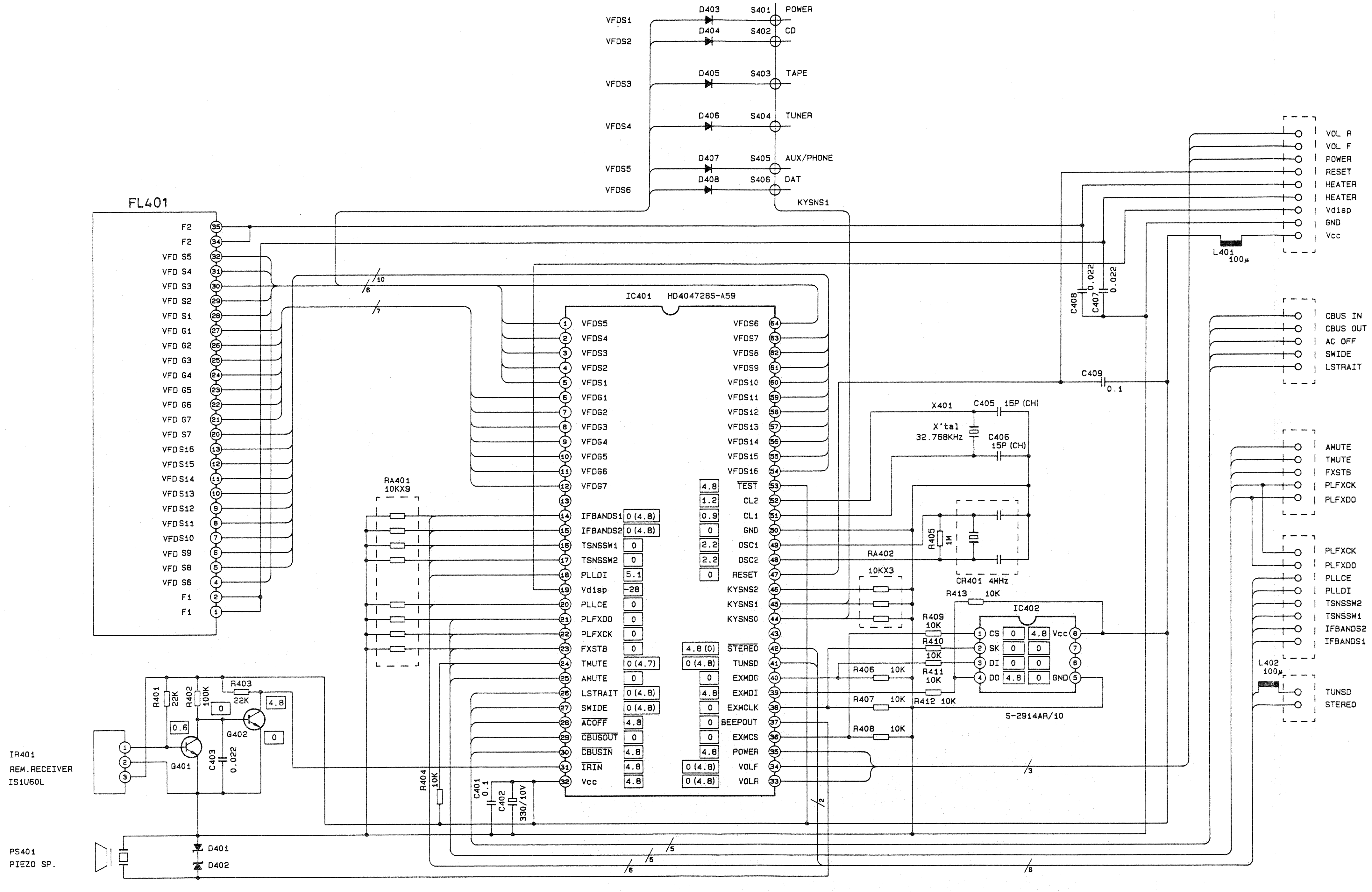
	B	C	E
Q201	-8/+2.3	0	Gnd
Q301	-8/+2.3	0	Gnd
Q202	0	0	Gnd
Q302	0	0	Gnd
Q203	-12	Gnd	0
Q303	-12	Gnd	0
Q204	-12	Gnd	0
Q304	-12	Gnd	0
Q501	15	-12	+15
Q502	0	15.5	Gnd
Q503	+13	+17	+12.5
Q504	+12.5	+17	+12
Q505	-13	-18	-12.5
Q506	-12.5	-18	-12.5
Q507	0	+5V	Gnd
Q508	0	+5V	Gnd
Q509	+0.7	0	Gnd
Q510	-29	-35.5	-28.5

ICs Voltage [V]

	IC501	IC503	IC504	IC506	IC502	IC505	IC507	IC508	IC510
1	0	0	0	0	-16	Open	Gnd	0	+5.5
2	0	0	0	0	0	Open	Gnd	16.7	Gnd
3	0	0	0	0	0	0	Open	0	+17
4	-11.9	-11.8	-11.8	-11.9	0	0	Open	Open	
5	0	0	0	0	Open	0	Open	Gnd	
6	0	0	0	0	0	Gnd	Open	16.7	
7	0	0	0	0	0	-8	Open	0	
8	+11.8	+11.7	+11.7	+11.8	0	Gnd	-12	5.3	
9					0	5	0	0	
10					0	0	0		
11					0	5V	0		
12					0	0	5		
13					0	0	0		
14					Gnd	0	0		
15					0	Open	0		
16					0	+8	+12		
17					0				
18					0				
19					0				
20					0				
21					0				
22					0				
23					0				
24					Open				
25					0				
26					0				
27					0				
28					+16				

SCHEMATIC DIAGRAM

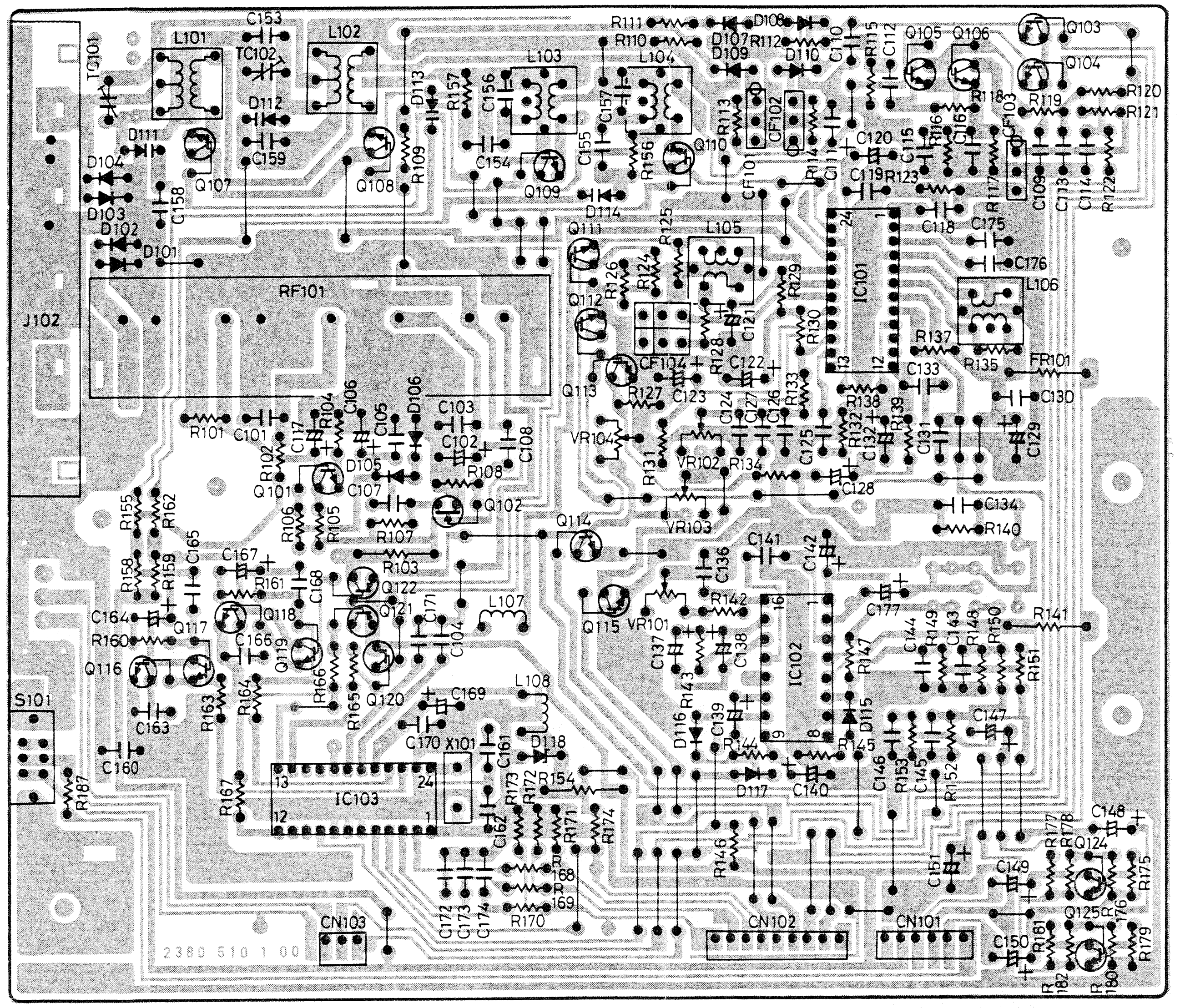
Tuner Display


FL401
F2
F2
VFD S5
VFD S4
VFD S3
VFD S2
VFD S1
VFD G1
VFD G2
VFD G3
VFD G4
VFD G5
VFD G6
VFD G7
VFD S7
VFD S16
VFD S15
VFD S14
VFD S13
VFD S12
VFD S11
VFD S10
VFD S9
VFD S8
VFD S6
F1
F1
VFDS1
VFDS2
VFDS3
VFDS4
VFDS5
VFDS6
D403
D404
D405
D406
D407
D408
S401 POWER
S402 CD
S403 TAPE
S404 TUNER
S405 AUX/PHONE
S406 DAT
KYSNS1
IC401 HD404728S-A59
VFDS5
VFDS4
VFDS3
VFDS2
VFDS1
VFDG1
VFDG2
VFDG3
VFDG4
VFDG5
VFDG6
VFDG7
IFBANDS1
IFBANDS2
TSNSSW1
TSNSSW2
PLLDI
Vdisp
PLLCE
PLFXDO
PLFXCK
FXSTB
TMUTE
AMUTE
LSTRAIT
SWIDE
ACOFF
CBUSOUT
CBUSIN
IRIN
Vcc
VFDS6
VFDS7
VFDS8
VFDS9
VFDS10
VFDS11
VFDS12
VFDS13
VFDS14
VFDS15
VFDS16
TEST
CL2
CL1
GND
OSC1
OSC2
RESET
KYSNS2
KYSNS1
KYSNS0
STEREO
TUNSD
EXMDO
EXMDI
EXMCLK
BEEPOUT
EXMCS
POWER
VOLF
VOLR
RA401 10KX9
RA402 10KX3
R401 22K
R402 10K
R403 22K
R404 10K
Q401
Q402
C403 0.022
C401 0.1
C402 330/10V
IR401 REM.RECEIVER IS1U60L
PS401 PIEZO SP.
D401
D402
X401 X'tal 32.768KHz
C405 15P (CH)
C406 15P (CH)
R405 1M
CR401 4MHz
R413 10K
R409 10K
R410 10K
R411 10K
R412 10K
R406 10K
R407 10K
R408 10K
IC402
CS
SK
DI
DO
Vcc
GND
S-2914AR/10
C408
C407 0.022
0.022
C409 0.1
L401 100μ
L402 100μ
VOL R
VOL F
POWER
RESET
HEATER
HEATER
Vdisp
GND
Vcc
CBUS IN
CBUS OUT
AC OFF
SWIDE
LSTRAIT
AMUTE
TMUTE
FXSTB
PLFXCK
PLFXDO
PLFXCK
PLFXDO
PLLCE
PLLDI
TSNSSW2
TSNSSW1
IFBANDS2
IFBANDS1
TUNSD
STEREO

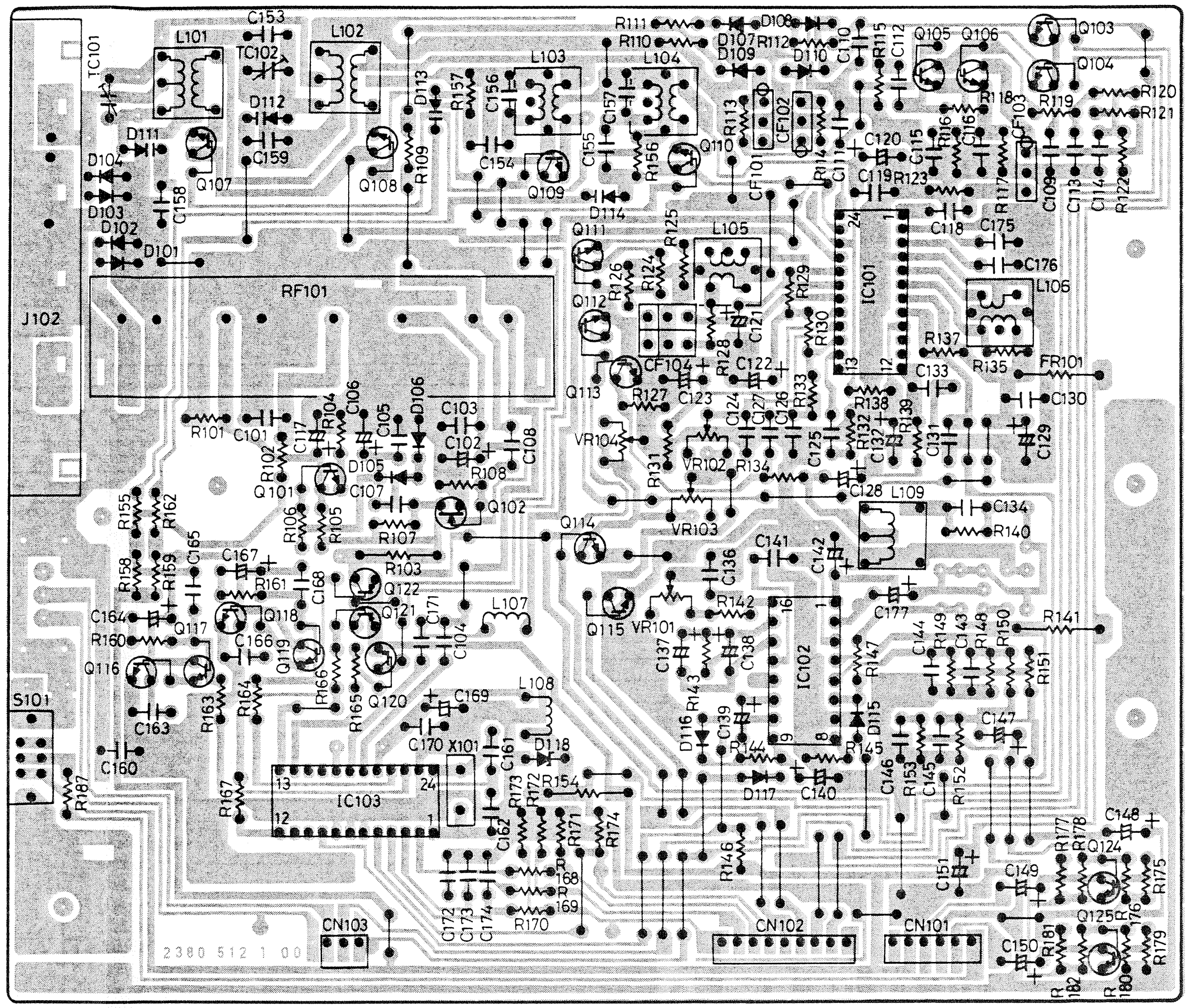
Q401, 402 ------ 2SC1740S
D401, 402 ------ RD5.1ESB2
D403, 404, 405 ---- 1SS133
406, 407, 408

☐ DC VOLTAGE (V)

Tuner [for E, E(BS)]


TC101
L101
C153
TC102
L102
L103
L104
D112
C159
D111
D104
D103
D102
D101
Q107
Q108
Q109
Q110
C158
D113
R157
C156
C154
C155
C157
R156
R111
R110
D108
D107
D109
D110
R112
CF102
CF101
R113
R114
C110
C112
C111
C120
C119
R123
C115
R115
R116
C163
Q105
Q106
Q103
Q104
R118
R119
R120
R121
CF103
R117
C109
C113
C114
R122
C118
C175
C176
L106
D114
Q111
Q112
Q113
R125
R126
R124
L105
R128
R129
R130
C121
CF104
C122
C123
R127
IC101
24
1
13
12
R137
R135
C133
FR101
C130
R138
R139
R133
C124
C127
C126
C125
R132
C132
C131
C129
J102
RF101
R101
C101
R102
C117
R104
C106
D106
C105
C103
C102
C108
R108
D105
C107
Q101
Q102
R106
R105
R107
R103
VR104
R131
VR102
R134
C128
VR103
C134
R140
Q114
R155
R162
C165
R158
R159
C167
R161
C168
C164
R160
Q117
Q118
Q116
C166
Q119
Q122
Q121
Q120
C171
C104
L107
Q115
VR101
R142
C137
C136
C141
C142
C177
IC102
16
8
9
R143
C138
C144
R149
C143
R148
R150
R151
R141
R147
D115
C147
S101
C163
R163
R164
R166
R165
C169
L108
C170
X101
C161
D118
D116
C139
R144
D117
C140
R145
C146
R153
C145
R152
C160
R187
R167
IC103
13
24
12
R173
R172
R154
R171
R174
C162
R146
C148
R177
R178
Q124
C151
C149
R175
R168
R169
R170
C172
C173
C174
CN103
CN102
CN101
C150
R181
R182
Q125
R176
R179
R180
2380 510 1 00

Tuner [for E(Z)]


TC101
L101
C153
TC102
L102
L103
L104
D112
C159
D111
D104
D103
D102
D101
Q107
Q108
Q109
Q110
C158
D113
R157
R109
C156
C154
C155
C157
R156
R111
R110
D108
D107
D109
D110
R112
CF102
CF101
R113
R114
C110
C112
C111
C120
C119
R123
C115
R115
C163
Q105
Q106
Q103
Q104
R118
R119
R120
R121
CF103
R117
C109
C113
C114
R122
C118
C175
C176
L105
L106
D114
Q111
Q112
Q113
R125
R126
R124
R128
R129
R130
CF104
C122
C123
R127
IC101
R137
R135
C133
FR101
C130
R138
R139
R133
R132
C131
C129
J102
RF101
R101
C101
R102
C117
R104
C106
D106
C105
C103
C102
C108
R108
D105
C107
Q101
Q102
R106
R105
R107
R103
VR104
R131
VR102
R134
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VR103
C134
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Q114
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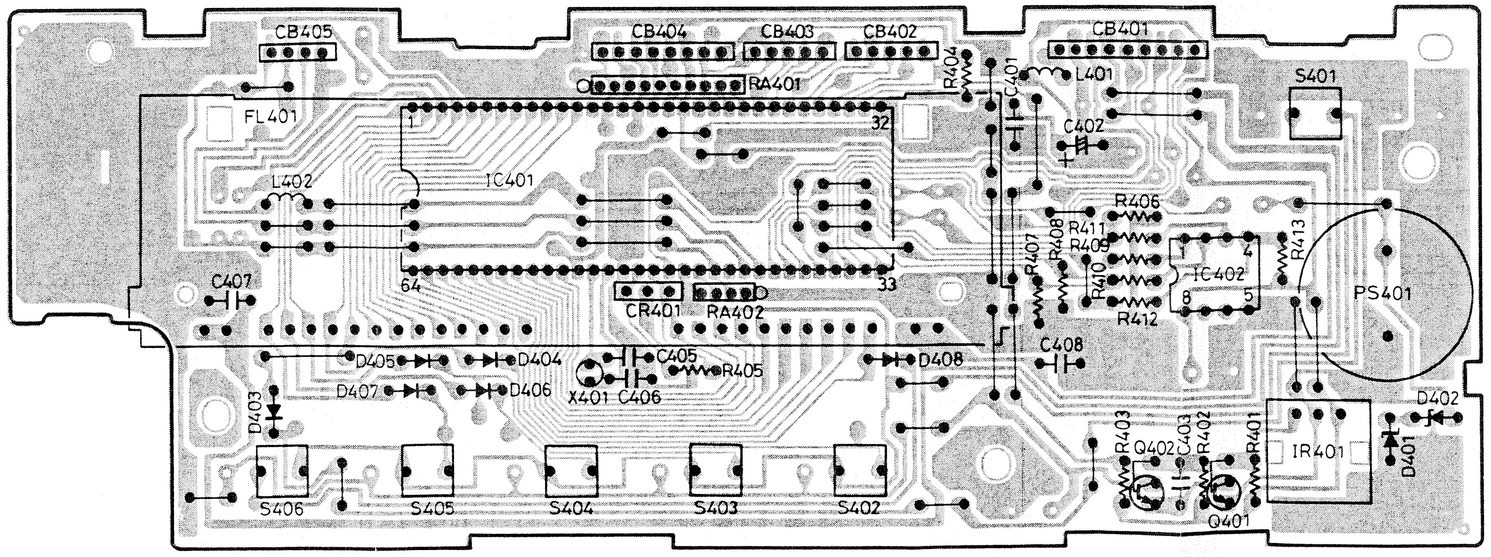
R162
C165
R158
R159
C167
R161
C168
C164
R160
Q117
Q118
Q116
C166
Q119
Q122
Q121
Q120
C171
C104
L107
Q115
VR101
R142
C137
C136
C141
C142
C177
IC102
R143
C138
C144
R149
C143
R148
R150
R151
R141
R147
D115
C147
S101
C163
R163
R164
R166
R165
C169
L108
C170
X101
C161
D118
D116
C139
R144
D117
C140
R145
C146
R153
C145
R152
C160
R187
R167
IC103
R173
R172
R154
R171
R174
C162
R146
C148
R177
R178
Q124
C151
C149
R175
R168
R169
R170
C172
C173
C174
CN103
CN102
CN101
C150
R181
R182
Q125
R176
R179
R180
2380 512 1 00

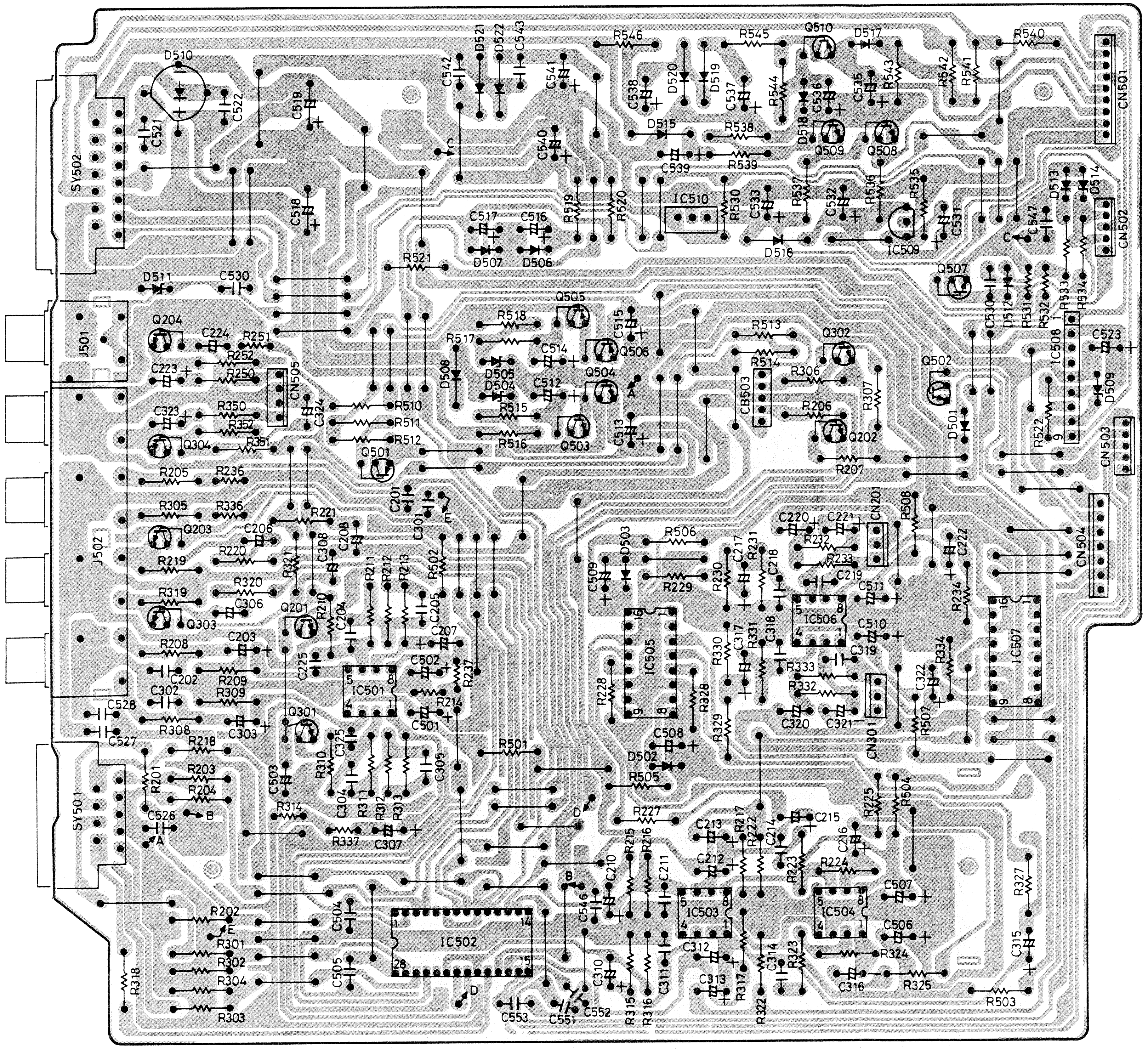
Tuner Display


CB405
CB404
CB403
CB402
CB401
RA401
R404
C401
L401
S401
FL401
32
IC401
L402
C402
R406
R407
R408
R411
R409
R410
R412
IC402
1
4
8
5
R413
PS401
C407
64
33
CR401
RA402
D405
D404
C405
R405
D408
C408
D407
D406
X401
C406
D403
R403
Q402
C403
R402
R401
IR401
D402
D401
S406
S405
S404
S403
S402
Q401

NOTE
The Original PWB Top View.
Electrical capacitors: ● mark is plus side.

PWB BOTTOM VIEW

Pre-amplifier


SY502
D510
C521
C522
C519
C518
C542
D521
D522
C543
C541
C540
R546
C538
D520
D519
R545
C537
R544
Q510
D517
C536
C535
R543
R542
R541
R540
CN501
D515
R538
D518
Q509
Q508
C539
R539
IC510
R530
C533
R537
C532
R536
R535
C531
C547
D513
D514
CN502
C517
C516
R519
R520
D507
D506
D516
IC509
R521
D511
C530
Q507
J501
Q204
C224
R251
R252
C223
R250
CN505
Q505
R518
C515
R517
Q506
C514
D508
D505
D504
C512
Q504
R513
Q302
R514
CB503
R306
R307
Q502
C530
D512
R531
R532
R533
R534
IC508
C523
D509
C323
R350
R352
C324
R510
R511
R512
R515
R516
Q503
C513
R206
Q202
R207
D501
R522
CN503
Q304
R351
Q501
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R236
C201
C301
R305
R336
R221
Q203
C206
J502
C308
C208
R220
R321
R211
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R502
R219
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C509
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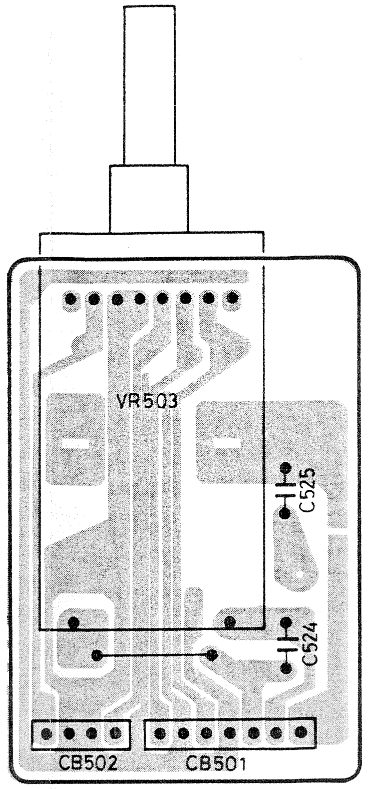
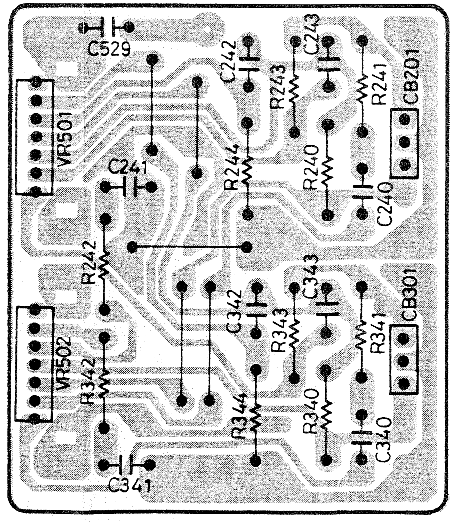
R230
C217
R231
C218
C220
C221
R232
R233
C219
CN201
R508
C222
CN504
R320
C306
R319
Q303
Q201
R210
C204
C205
C207
IC505
IC506
C511
C510
C319
R234
IC507
R208
C203
C225
C502
R237
R330
C317
R331
C318
R333
R334
C322
C202
R209
C302
R309
IC501
R214
R228
R328
R332
C528
C527
Q301
C501
C303
R308
R218
C325
C320
C321
CN301
R507
C508
D502
R501
R329
R201
R203
R204
SY501
C526
C503
R310
C304
R311
R312
R313
C305
R505
R314
R227
C213
R217
R222
C214
C215
C216
R225
R504
R337
C307
R215
R216
C210
C211
C212
R223
R224
C546
IC503
IC504
C507
R327
R202
R301
R302
R304
R303
R318
C504
C505
IC502
C310
C311
C312
C313
R317
C314
R323
C506
R324
C316
R325
C315
R315
R316
R322
C553
C551
C552
R503
A
B
C
D
E

Volume Control


VR503
C525
C524
CB502
CB501

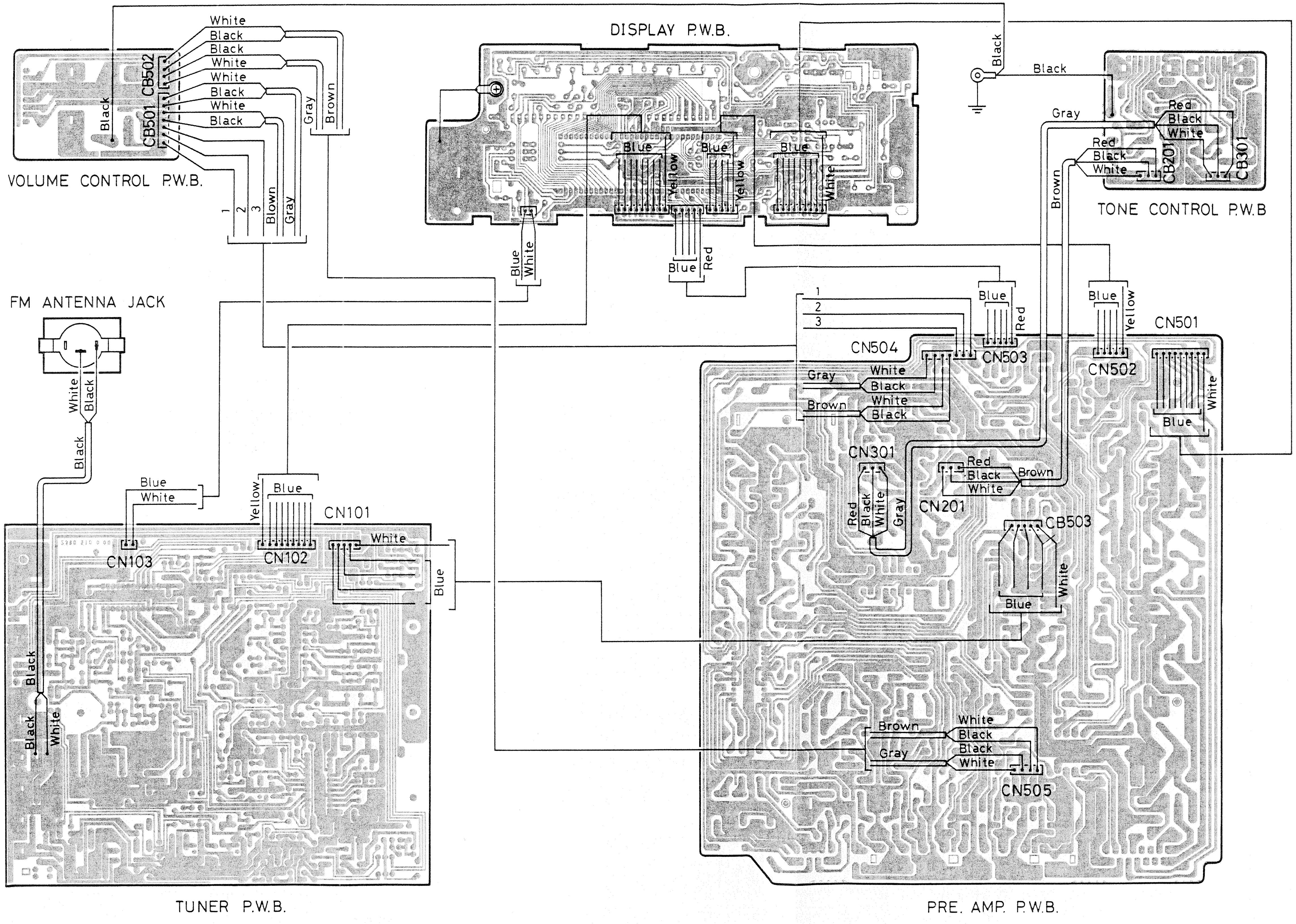
Tone Control


C529
C242
C243
R243
R241
CB201
VR501
C241
R244
R240
C240
R242
C342
C343
R343
R341
CB301
VR502
R342
R344
R340
C340
C341

NOTE
The Original PWB Top View.
Electrical capacitors: ● mark is plus side.

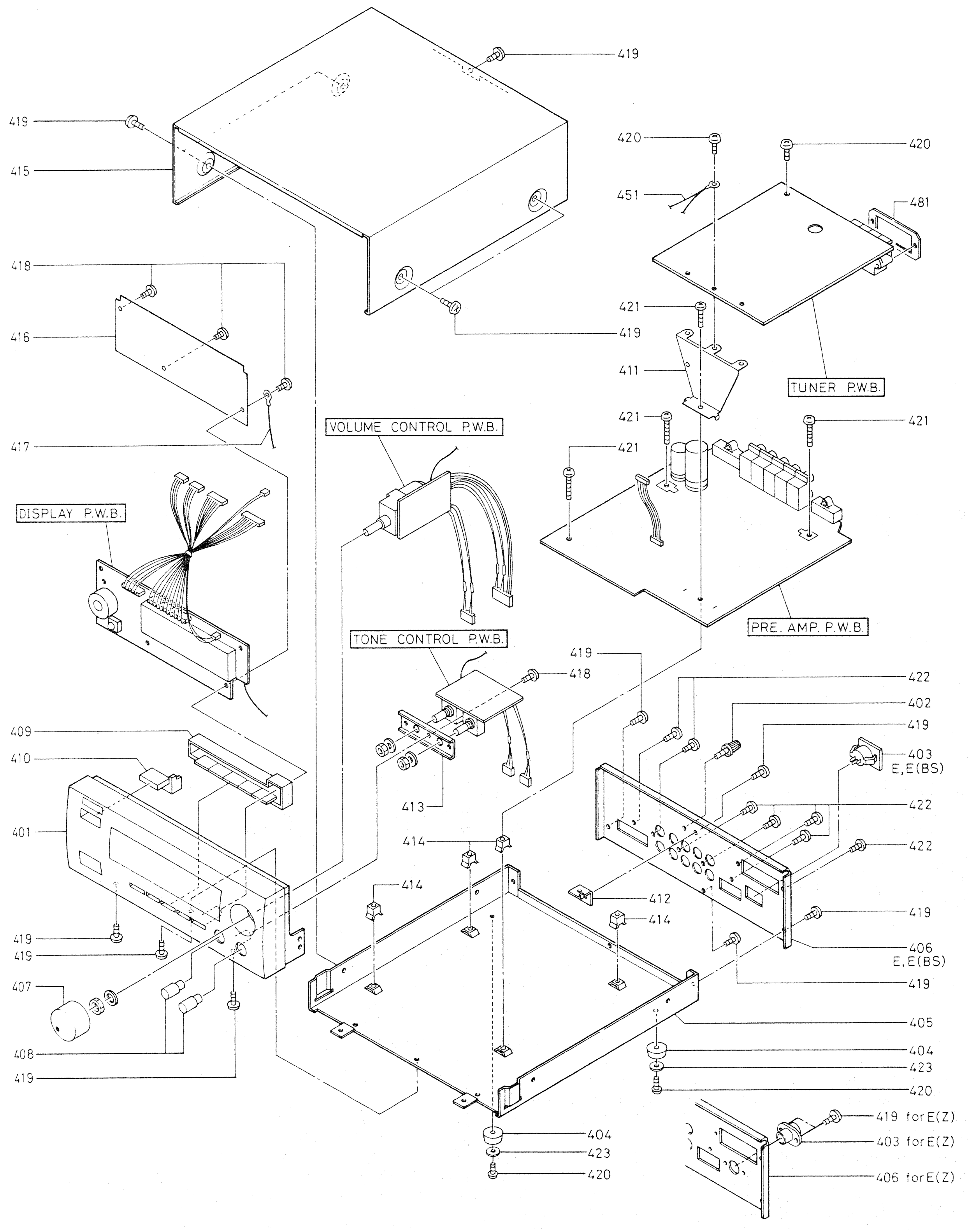
WIRING DIAGRAM

Pre-amplifier/Tuner


VOLUME CONTROL P.W.B.
CB501
CB502
White
Black
Black
White
White
Black
White
Black
Black
Gray
Brown
1
2
3
Blown
Gray
DISPLAY P.W.B.
Blue
Yellow
Blue
Yellow
Blue
White
Blue
White
Blue
Red
TONE CONTROL P.W.B
Black
Gray
Red
Black
White
Red
Black
White
CB201
CB301
Brown
FM ANTENNA JACK
White
Black
Black
Blue
White
Yellow
Blue
CN101
CN103
CN102
White
Blue
Black
Black
White
TUNER P.W.B.
1
2
3
Blue
Red
Blue
Yellow
CN501
CN504
CN503
CN502
Gray
White
Black
Brown
White
Black
White
Blue
CN301
Red
Black
Brown
White
CN201
Red
Black
White
Gray
CB503
White
Blue
Brown
Gray
White
Black
Black
White
CN505
PRE. AMP. P.W.B.

EXPLODED VIEW

Pre-amplifier/Tuner Cabinet



PARTS LIST

Pre-amplifier/Tuner

SYMBOL No.	PART No.	DESCRIPTION
		PWB ASSEMBLY
	2380-604-0-00	Tuner PWB ass [for E, E(BS)]
	2380-604-0-01	Tuner PWB ass [for E(Z)]
	2380-601-0-00	Pre amplifier PWB (with Volume control PWB, Tone control PWB)
	2380-605-0-00	Display PWB ass
		CAPACITORS
C101	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C102	0937-851-0-06	EL, 10 μF ±20% 50V
C103	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C104	9301-451-0-15	CC, 100 PF ±10% 50V
C105	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C106	0937-850-1-06	EL, 1 μF ±20% 50V
C107	0930-243-9-04	CD, 39 PF ±5% 50V
C108	0930-243-9-04	CD, 39 PF ±5% 50V
C109	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C110	9302-332-2-39	CC, 0.022 μF +80/-20% 50V [for E(BS), E]
	9302-351-0-49	CC, 0.1 μF +80/-20% 50V [for E(Z)]
C111	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C112	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C113	0931-554-7-39	CD, 0.047 μF +80/-20% 50V
C114	0931-554-7-39	CD, 0.047 μF +80/-20% 50V
C115	0931-554-7-39	CD, 0.047 μF +80/-20% 50V
C116	0931-554-7-39	CD, 0.047 μF +80/-20% 50V
C117	0937-852-2-96	EL, 0.22 μF ±20% 50V
C118	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C119	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C120	0937-851-0-06	EL, 10 μF ±20% 50V
C121	0937-853-3-86	EL, 3.3 μF ±20% 50V
C122	0937-853-3-86	EL, 3.3 μF ±20% 50V
C123	0937-851-0-06	EL, 10 μF ±20% 50V
C124	0938-632-2-35	CD, 0.022 μF ±10% 25V
C125	0938-634-7-35	CD, 0.047 μF ±10% 25V
C126	0938-631-0-35	CD, 0.01 μF ±10% 25V
C127	0938-634-7-35	CD, 0.047 μF ±10% 25V
C128	0937-851-0-06	EL, 10 μF ±20% 50V
C129	0937-834-7-06	EL, 47 μF ±20% 25V
C130	0931-552-2-39	CD, 0.022 μF +80/-20% 50V
C131	0931-551-0-39	CD, 0.01 μF +80/-20% 50V
C132	0937-850-1-06	EL, 1 μF ±20% 50V
C133	9301-452-2-15	CC, 220 PF ±10% 50V [for E(BS), E]
	9301-451-0-25	CC, 1000 PF ±10% 50V [for E(Z)]
C134	9301-456-8-15	CC, 680 PF ±10% 50V [for E(BS), E]
C135	Not used.	
C136	9330-671-0-24	MF, 1000 PF ±5% 100V
C137	0937-854-7-96	EL, 0.47 μF ±20% 50V
C138	0937-854-7-96	EL, 0.47 μF ±20% 50V
C139	0937-850-1-06	EL, 1 μF ±20% 50V
C140	0937-850-1-06	EL, 1 μF ±20% 50V
C141	0938-634-7-35	CD, 0.047 μF ±10% 25V
C142	0937-834-7-06	EL, 47 μF ±20% 25V
C143	0938-631-0-35	CD, 0.01 μF ±10% 25V
C144	0938-631-0-35	CD, 0.01 μF ±10% 25V
C145	0938-633-3-25	CD, 3300 PF ±10% 25V [for E(BS), E]
	0938-635-6-25	CD, 5600 PF ±10% 25V [for E(Z)]
C146	0938-633-3-25	CD, 3300 PF ±10% 25V [for E(BS), E]
	0938-635-6-25	CD, 5600 PF ±10% 25V [for E(Z)]
C147	0937-854-7-86	EL, 4.7 μF ±20% 50V
C148	0937-854-7-96	EL, 4.7 μF ±20% 50V
C149	0937-854-7-86	EL, 4.7 μF ±20% 50V
C150	0937-854-7-86	EL, 4.7 μF ±20% 50V
C151	0937-834-7-16	EL, 470 μF ±20% 25V
C152	Not used.	
C153	0930-243-9-04	CD, 39 PF ±5% 50V
C154	0932-654-3-14	ST, 430 PF ±5% 50V
C155	0932-652-7-14	ST, 270 PF ±5% 50V
C156	0930-241-5-04	CD, 15 PF ±5% 50V
C157	0930-241-5-14	CD, 150 PF ±5% 50V
C158	0938-634-7-35	CD, 0.047 μF ±10% 25V
C159	0938-634-7-35	CD, 0.047 μF +80/-20% 50V
C160	0931-551-0-29	CD, 1000PF ±10% 25V
C161	0930-242-7-04	CD, 27 PF ±5% 50V
C162	0930-242-7-04	CD, 27 PF ±5% 50V
C163	9301-451-0-25	CC, 1000 PF ±10% 50V
C164	0937-850-1-06	EL, 1 μF ±20% 50V
C165	0938-631-0-35	CD, 0.01 μF ±10% 25V
C166	9301-451-0-25	CC, 1000 PF ±10% 50V
C167	0937-851-0-96	EL, 0.1 μF ±20% 50V
C168	0938-631-0-35	CD, 0.01 μF ±10% 25V
C169	0937-834-7-06	EL, 47 μF ±20% 25V
C170	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C171	9301-451-0-15	CC, 100 PF ±10% 50V
C172	9301-451-0-15	CC, 100 PF ±10% 50V
C173	9301-451-0-15	CC, 100 PF ±10% 50V
C174	9301-451-0-15	CC, 100 PF ±10% 50V
C175	0931-554-7-39	CD, 0.047 μF +80/-20% 50V
C176	0931-554-7-39	CD, 0.047 μF +80/-20% 50V
C177	0937-851-0-06	EL, 10 μF ±20% 50V
C178 to C200	Not used.	
C201	0930-001-0-14	CD, 100 PF ±5% 50V
C202	9301-451-0-25	CC, 1000 PF ±10% 50V
C203	0937-853-3-86	EL, 3.3 μF ±20% 50V
C204	9336-756-8-24	MF, 6800 PF ±5% 50V
C205	9336-752-7-34	MF, 0.027 μF ±5% 50V
C206	9363-231-0-06	EL, 10 μF ±20% 25V
C207	0937-851-0-06	EL, 10 μF ±20% 50V
C208	9363-250-1-06	EL, 1 μF ±20% 50V
C209	Not used.	
C210	0937-850-1-06	EL, 1 μF ±20% 50V
C211	9301-154-7-04	CC, 47 PF ±5% 50V
C212	0937-851-0-06	EL, 10 μF ±20% 50V
C213	0937-851-0-06	EL, 10 μF ±20% 50V
C214	0933-451-0-44	CF, 0.1 μF ±5% 50V
C215	0937-851-0-06	EL 10 μF ±20% 50V
C216	0937-850-1-06	EL, 1 μF ±20% 50V
C217	0937-851-0-06	EL 10 μF ±20% 50V
C218	9301-154-7-04	CC, 47 PF ±5% 50V
C219	9301-154-7-04	CC, 47 PF ±5% 50V
C220	0937-822-2-06	EL, 22 μF ±20% 16V
C221	0937-822-2-06	EL 22 μF ±20% 16V
C222	0937-851-0-06	EL, 10 μF ±20% 50V
C223	0937-851-0-06	EL, 10 μF ±20% 50V
C224	9363-250-1-06	EL, 1 μF ±20% 50V
C225	0930-001-0-14	CD, 100 PF ±5% 50V
C226 to C239	Not used.	
C240	9336-752-7-24	MF, 2700 PF ±5% 50V
C241	9336-751-5-34	MF, 0.015 μF ±5% 50V

SYMBOL No.	PART No.	DESCRIPTION
C242	0933-451-5-44	CF, 0.15 μF ±5% 50V
C243	9336-753-3-34	MF, 0.033 μF ±5% 50V
C244 to C300	Not used.	
C301	0930-001-0-14	CD, 100 PF ±5% 50V
C302	9301-451-0-25	CC, 1000 PF ±10% 50V
C303	0937-853-3-86	EL, 3.3 μF ±20% 50V
C304	9336-756-8-24	MF, 6800 PF ±5% 50V
C305	9336-752-7-34	MF, 0.027 μF ±5% 50V
C306	9363-231-0-06	EL, 10 μF ±20% 25V
C307	0937-851-0-06	EL, 10 μF ±20% 50V
C308	9363-250-1-06	EL, 1 μF ±20% 50V
C309	Not used.	
C310	0937-850-1-06	EL, 1 μF ±20% 50V
C311	9301-154-7-04	CC, 47 PF ±5% 50V
C312	0937-851-0-06	EL, 10 μF ±20% 50V
C313	0937-851-0-06	EL, 10 μF ±20% 50V
C314	0933-451-0-44	MF, 0.1 μF ±5% 50V
C315	0937-851-0-06	EL, 10 μF ±20% 50V
C316	0937-850-1-06	EL, 1 μF ±20% 50V
C317	0937-851-0-06	EL, 10 μF ±20% 50V
C318	9301-154-7-04	CC, 47 PF ±5% 50V
C319	9301-154-7-04	CC, 47 PF ±5% 50V
C320	0937-822-2-06	EL, 22 μF ±20% 16V
C321	0937-822-2-06	EL, 22 μF ±20% 16V
C322	0937-851-0-06	EL, 10 μF ±20% 50V
C323	0937-851-0-06	EL, 10 μF ±20% 50V
C324	9363-250-1-06	EL, 1 μF ±20% 50V
C325	0930-001-0-14	CD, 100 PF ±5% 50V
C326 to C339	Not used.	
C340	9336-752-7-24	MF, 2700 PF ±5% 50V
C341	9336-751-5-34	MF, 0.012 μF ±5% 50V
C342	0933-451-5-44	CF, 0.15 μF ±5% 50V
C343	9336-753-3-34	MF, 0.033 μF ±5% 50V
C344 to C400	Not used.	
C401	9302-351-0-45	CC, 0.1 μF +80/-20% 50V
C402	0938-913-3-16	EL, 330 μF ±20% 10V
C403	9336-752-2-34	MF, 0.022 μF ±5% 50V
C404	Not used.	
C405	9300-251-5-04	CC, 15 PF ±5% 50V
C406	9300-251-5-04	CC, 15 PF ±5% 50V
C407	9302-332-2-39	CC, 0.022 μF +80/-20% 25V
C408	9302-332-2-39	CC, 0.022 μF +80/-20% 25V
C409	9302-151-0-49	CC, 0.1 μF +80/-20% 50V
C410 to C500	Not used.	
C501	0937-834-7-06	EL, 47 μF ±20% 25V
C502	0937-834-7-06	EL, 47 μF ±20% 25V
C503	9363-234-7-06	EL, 47 μF ±20% 25V
C504	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C505	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C506	0937-834-7-06	EL, 47 μF ±20% 25V
C507	0937-834-7-06	EL, 47 μF ±20% 25V
C508	0937-834-7-06	EL, 47 μF ±20% 25V
C509	0937-834-7-06	EL, 47 μF ±20% 25V
C510	0937-834-7-06	EL, 47 μF ±20% 25V
C511	0937-834-7-06	EL, 47 μF ±20% 25V
C512	0937-834-7-06	EL, 47 μF ±20% 25V
C513	0937-832-2-16	EL, 220 μF ±20% 25V
C514	0937-834-7-06	EL, 47 μF ±20% 25V
C515	0937-832-2-16	EL, 220 μF ±20% 25V
C516	0937-834-7-06	EL, 47 μF ±20% 25V
C517	0937-834-7-06	EL, 47 μF ±20% 25V
C518	0937-734-7-26	EL, 4700 μF ±20% 25V

SYMBOL No.	PART No.	DESCRIPTION
C519	0937-733-3-26	EL, 3300 μF ±20% 25V
C520	Not used.	
C521	0931-481-0-39	CD, 0.01 μF +80/-20% 250V
C522	0931-481-0-39	CD, 0.01 μF +80/-20% 250V
C523	0937-851-0-06	EL, 10 μF ±20% 50V
C524	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C525	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C526	9301-451-0-25	CC, 1000 PF ±10% 50V
C527	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C528	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C529	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C530	9301-155-6-04	CC, 56 PF ±5% 50V
C531	0937-852-2-86	EL, 2.2 μF ±20% 50V
C532	0937-711-0-26	EL, 1000 μF ±20% 10V
C533	0937-711-0-26	EL, 1000 μF ±20% 10V
C534	Not used.	
C535	0937-854-7-06	EL, 47 μF ±20% 50V
C536	0937-854-7-06	EL, 47 μF ±20% 50V
C537	0937-752-2-16	EL, 220 μF ±20% 50V
C538	0937-752-2-16	EL, 220 μF ±20% 50V
C539	0937-854-7-86	EL, 4.7 μF ±20% 50V
C540	0937-731-0-26	EL, 1000 μF ±20% 25V
C541	0937-734-7-16	EL, 470 μF ±20% 25V
C542	0931-481-0-39	CD, 0.01 μF +80/-20% 250V
C543	0931-481-0-39	CD, 0.01 μF +80/-20% 250V
C544	Not used.	
C545	Not used.	
C546	9302-351-0-49	CC, 0.1 μF +80/-20% 50V
C547	9302-332-2-39	CC, 0.022 μF +80/-20% 25V
C548 to C550	Not used.	
C551	0930-004-7-04	CD, 47 PF ±5% 50V
C552	0930-004-7-04	CD, 47 PF ±5% 50V
C553	0930-004-7-04	CD, 47 PF ±5% 50V
RESISTORS		
R101	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R102	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R103	0921-521-0-04	CF, 10 ohm ±5% SRD 1/2P
R104	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R105	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R106	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R107	0920-861-2-24	CF, 1.2k ohm ±5% SRD 1/6P
R108	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R109	0920-862-2-14	CF, 220 ohm ±5% SRD 1/6P
R110	0920-863-3-14	CF, 330 ohm ±5% SRD 1/6P
R111	0920-865-6-14	CF, 560 ohm ±5% SRD 1/6P
R112	0920-863-9-24	CF, 3.9k ohm ±5% SRD 1/6P
R113	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R114	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R115	0920-863-3-14	CF, 330 ohm ±5% SRD 1/6P
R116	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R117	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R118	0920-865-6-44	CF, 560k ohm ±5% SRD 1/6P
R119	0920-864-7-14	CF, 470 ohm ±5% SRD 1/6P
R120	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R121	0920-863-3-14	CF, 330 ohm ±5% SRD 1/6P
R122	0920-866-8-14	CF, 680 ohm ±5% SRD 1/6P
R123	0920-863-3-14	CF, 330 ohm ±5% SRD 1/6P
R124	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R125	0920-866-8-34	CF, 68k ohm ±5% SRD 1/6P
R126	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R127	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R128	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R129	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R130	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R131	0920-866-8-24	CF, 6.8k ohm ±5% SRD 1/6P
R132	0920-863-9-04	CF, 39 ohm ±5% SRD 1/6P

SYMBOL No.	PART No.	DESCRIPTION
R133	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R134	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R135	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R136	Not used.	
R137	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R138	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R139	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R140	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R141	0921-522-2-14	CF, 220 ohm ±5% SRD 1/2P
R142	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R143	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R144	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R145	0920-866-8-14	CF, 680 ohm ±5% SRD 1/6P
R146	0920-866-8-24	CF, 6.8k ohm ±5% SRD 1/6P
R147	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P
R148	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R149	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R150	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R151	0920-862-2-24	CF 2.2k ohm ±5% SRD 1/6P
R152	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R153	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R154	0920-814-7-14	CF, 470 ohm ±5% SRD 1/4P
R155	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R156	0920-862-2-44	CF, 220k ohm ±5% SRD 1/6P
R157	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R158	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R159	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R160	0920-861-5-24	CF, 1.5k ohm ±5% SRD 1/6P
R161	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R162	0920-865-6-24	CF, 5.6k ohm ±5% SRD 1/6P
R163	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R164	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R165	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R166	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R167	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R168	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R169	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R170	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R171	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R172	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R173	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R174	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R175	0920-868-2-14	CF, 820 ohm ±5% SRD 1/6P
R176	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R177	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R178	0920-868-2-34	CF, 82k ohm ±5% SRD 1/6P
R179	0920-868-2-14	CF, 820 ohm ±5% SRD 1/6P
R180	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R181	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R182	0920-868-2-34	CF, 82k ohm ±5% SRD 1/6P
R183 to R186	Not used.	
R187	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R188 to R200	Not used.	
R201	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R202	0920-812-2-24	CF, 2.2k ohm ±5% SRD 1/4P
R203	0920-811-0-14	CF, 100 ohm ±5% SRD 1/4P
R204	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R205	0920-816-8-24	CF, 6.8k ohm ±5% SRD 1/4P
R206	0920-814-7-24	CF, 4.7k ohm ±5% SRD 1/4P
R207	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R208	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R209	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R210	0920-811-3-14	CF, 130 ohm ±5% SRD 1/4P
R211	0920-811-2-34	CF, 12k ohm ±5% SRD 1/4P
R212	0920-811-1-44	CF, 110k ohm ±5% SRD 1/4P
R213	0920-811-1-14	CF, 110 ohm ±5% SRD 1/4P

SYMBOL No.	PART No.	DESCRIPTION
R214	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R215	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R216	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R217	0920-812-2-44	CF, 220k ohm ±5% SRD 1/4P
R218	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R219	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R220	0920-811-0-24	CF, 1k om ±5% SRD 1/4P
R221	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R222	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R223	0920-814-7-24	CF, 4.7k ohm ±5% SRD 1/4P
R224	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R225	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R226	Not used.	
R227	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R228	0920-812-2-34	CF, 22k ohm ±5% SRD 1/4P
R229	0920-812-2-34	CF, 22k ohm ±5% SRD 1/4P
R230	0920-812-2-44	CF, 220k ohm ±5% SRD 1/4P
R231	0920-818-2-24	CF, 8.2k ohm ±5% SRD 1/4P
R232	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R233	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R234	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R235	Not used.	
R236	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R237	0920-866-8-24	CF, 6.8k ohm ±5% SRD 1/6P
R238	Not used.	
R239	Not used.	
R240	0920-811-2-24	CF, 1.2k ohm ±5% SRD 1/4P
R241	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R242	0920-819-1-14	CF, 910 ohm ±5% SRD 1/4P
R243	0920-811-8-34	CF, 18k ohm ±5% SRD 1/4P
R244	0920-813-0-24	CF, 3k ohm ±5% SRD 1/4P
R245 to R249	Not used.	
R250	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R251	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R252	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R253 to R300	Not used.	
R301	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R302	0920-812-2-24	CF, 2.2k ohm ±5% SRD 1/4P
R303	0920-811-0-14	CF, 100 ohm ±5% SRD 1/4P
R304	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R305	0920-816-8-24	CF, 6.8k ohm ±5% SRD 1/4P
R306	0920-814-7-24	CF, 4.7k ohm ±5% SRD 1/4P
R307	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R308	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R309	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R310	0920-811-3-14	CF, 130 ohm ±5% SRD 1/4P
R311	0920-811-2-34	CF, 12k ohm ±5% SRD 1/4P
R312	0920-811-1-44	CF, 110k ohm ±5% SRD 1/4P
R313	0920-811-1-14	CF, 110 ohm ±5% SRD 14/P
R314	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R315	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R316	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R317	0920-812-2-44	CF, 220k ohm ±5% SRD 1/4P
R318	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R319	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R320	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R321	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R322	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R323	0920-814-7-24	CF, 4.7k ohm ±5% SRD 1/4P
R324	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R325	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R326	Not used.	
R327	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R328	0920-812-2-34	CF, 22k ohm ±5% SRD 1/4P
R329	0920-812-2-34	CF, 22k ohm ±5% SRD 1/4P
R330	0920-812-2-44	CF 220k ohm ±5% SRD 1/4P

SYMBOL No.	PART No.	DESCRIPTION
R331	0920-818-2-24	CF, 8.2k ohm ±5% SRD 1/4P
R332	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R333	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R334	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R335	Not used.	
R336	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R337	0920-866-8-24	CF, 6.8k ohm ±5% SRD 1/6P
R338	Not used.	
R339	Not used.	
R340	0920-811-2-24	CF, 1.2k ohm ±5% SRD 1/4P
R341	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R342	0920-819-1-14	CF, 910 ohm ±5% SRD 1/4P
R343	0920-811-8-34	CF, 18k ohm ±5% SRD 1/4P
R344	0920-813-0-24	CF, 3k ohm ±5% SRD 1/4P
R345 to R349	Not used.	
R350	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R351	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R352	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R353 to R400	Not used.	
R401	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R402	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R403	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R404	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R405	0920-861-0-54	CF, 1M ohm ±5% SRD 1/6P
R406	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R407	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R408	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R409	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R410	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R411	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R412	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R413	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R414 to R500	Not used.	
R501	0926-214-7-04	CF, 47 ohm ±5% SRD 1/4P
R502	0926-214-7-04	CF, 47 ohm ±5% SRD 1/4P
R503	0926-214-7-04	CF, 47 ohm ±5% SRD 1/4P
R504	0926-214-7-04	CF, 47 ohm ±5% SRD 1/4P
R505	0921-521-2-24	CF, 1.2k ohm ±5% SRD 1/2P
R506	0921-521-2-24	CF, 1.2k ohm ±5% SRD 1/2P
R507	0926-214-7-04	CF, 47 ohm ±5% SRD 1/4P
R508	0926-214-7-04	CF, 47 ohm ±5% SRD 1/4P
R509	Not used.	
R510	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R511	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R512	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R513	0920-812-2-34	CF, 22k ohm ±5% SRD 1/4P
R514	0920-811-0-44	CF, 100k ohm ±5% SRD 1/4P
R515	0920-812-2-14	CF, 220 ohm ±5% SRD 1/4P
R516	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R517	0920-812-2-14	CF, 220 ohm ±5% SRD 1/4P
R518	0920-811-0-24	CF, 1k ohm ±5% SRD 1/4P
R519	0921-521-0-24	CF, 1k ohm ±5% SRD 1/2P
R520	0921-521-0-24	CF, 1k ohm ±5% SRD 1/2P
R521	0928-921-7-00	CF, 2.2 ohm SRD 1/6P
R522	0920-813-3-24	CF, 3.3k ohm ±5% SRD 1/4P
R523 to R529	Not used.	
R530	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R531	0920-862-7-34	CF, 27k ohm ±5% SRD 1/6P
R532	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R533	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R534	0920-812-2-34	CF, 22k ohm ±5% SRD 1/4P
R535	0920-819-1-34	CF, 91k ohm ±5% SRD 1/4P
R536	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R537	0920-814-7-34	CF, 47k ohm ±5% SRD 1/4P
R538	0920-814-7-24	CF, 4.7k ohm ±5% SRD 1/4P
R539	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R540	0928-912-7-00	CF, 2.2 ohm SRD 1/6P
R541	0926-211-0-14	CF, 100 ohm ±5% SRD 1/4P
R542	0926-211-0-14	CF, 100 ohm ±5% SRD 1/4P
R543	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R544	0920-811-0-34	CF, 10k ohm ±5% SRD 1/4P
R545	0928-912-7-00	CF, 2.2 ohm SRD 1/6P
⚠R546	0928-912-7-00	CF, 2.2 ohm SRD 1/6P
FR101	0921-114-7-04	CF, 47 ohm ±5% SRD 1/4P
RA401	0924-016-4-00	Array resistor 10k ohm ±5%
	or 0924-019-3-00	Array resistor 10k ohm ±5%
RA402	0924-019-1-00	Array resistor 10k ohm ±5%
	or 0924-019-2-00	Array resistor 10k ohm ±5%
		COILS
L101	0014-791-0-00	Coil-10
L102	0014-792-0-00	Coil-10
L103	0014-732-0-00	OSC coil-7.5, MW
L104	0014-733-0-00	OSC coil-7.5, LW
L105	0012-282-0-00	AM IFT
L106	0012-199-0-00	FM IFT-7
L107	0991-872-2-85	LAP02TA2R2KT
L108	0991-871-0-15	LAP02TA101KT
L109	0039-872-0-00	Low pass filter, MY-7317-1 [for E(Z)]
L401	0991-401-0-15	LHL06TB101K
L402	0991-871-0-15	LAP02TA101KT
		FILTERS
CF101	0039-089-0-00	Ceramic, SFE107MS2GH
CF102	0039-089-0-00	Ceramic, SFE107MS2GH
CF103	0039-067-0-00	Ceramic, SFE107MA5-A [for E(BS), E]
	0039-115-0-00	Ceramic, SFE107MS3GH [for E(Z)]
CF104	0039-062-0-00	Ceramic, SFZ450 JL
		DIODES
D101	0915-003-9-00	1SS133
D102	0915-003-9-00	1SS133
D103	0915-003-9-00	1SS133
D104	0915-003-9-00	1SS133
D105	0915-015-2-00	MA700
D106	0915-015-2-00	MA700
D107	0915-003-9-00	1SS133
D108	0915-003-9-00	1SS133
D109	0915-003-9-00	1SS133
D110	0915-003-9-00	1SS133
D111	0914-020-1-01	SVC321SPA-A-2
D112	0914-020-1-01	SVC321SPA-A-2
D113	0914-020-1-01	SVC321SPA-A-2
D114	0914-020-1-01	SVC321SPA-A-2
D115	0915-003-9-00	1SS133
D116	0915-003-9-00	1SS133
D117	0915-003-9-00	1SS133
D118	0915-009-9-02	RD5.1ESB2
	or 0915-009-9-01	RD5.1ESB1
D401	0915-009-9-02	RD5.1ESB2
D402	0915-009-9-02	RD5.1ESB2
D403	0915-003-9-00	1SS133
D404	0915-003-9-00	1SS133
D405	0915-003-9-00	1SS133
D406	0915-003-9-00	1SS133
D407	0915-003-9-00	1SS133
D408	0915-003-9-00	1SS133

SYMBOL No.	PART No.	DESCRIPTION
D501	0915-003-6-00	1SS270
	or 0915-003-9-00	1SS133
D502	0915-008-5-01	RD8.2ESB1
	or 0915-008-5-02	RD8.2ESB2
D503	0915-008-5-02	RD8.2ESB2
	or 0915-008-5-01	RD8.2ESB1
D504	0915-010-6-02	RD13ESB2
D505	0915-010-6-02	RD13ESB2
D506	0915-010-8-02	RD16ESB2
D507	0915-010-8-02	RD16ESB2
D508	0915-011-9-00	RB100A
D509	0915-007-4-03	RD5.6ESB3
	or 0915-007-4-02	RD5.6ESB2
⚠D510	0913-011-9-00	2W02G
D511	0915-009-9-03	RD5.1ESB3
	or 0915-009-9-02	RD5.1ESB2
D512	0915-003-9-00	1SS133
	or 0915-003-6-00	1SS270
D513	0915-007-5-03	RD6.2ESB3
	or 0915-007-5-02	RD6.2ESB2
D514	0915-007-5-02	RD6.2ESB2
	or 0915-007-5-03	RD6.2ESB3
⚠D515	0915-005-2-04	MPG06D
⚠	or 0915-005-2-02	MPG06B
D516	0915-005-2-04	MPG06D
	or 0915-005-2-02	MPG06B
D517	0915-009-9-02	RD5.1ESB2
	or 0915-009-9-03	RD5.1ESB3
D518	0915-011-4-03	RD30ESB3
D519	0915-005-2-02	MPG06B
	or 0915-005-2-04	MPG06D
⚠D520	0915-005-2-02	MPG06B
⚠	or 0915-005-2-04	MPG06D
⚠D521	0915-005-2-04	MPG06D
⚠	or 0915-005-2-02	MPG06B
⚠D522	0915-005-2-02	MPG06B
⚠	or 0915-005-2-04	MPG06D
ICS and TRANSISTORS		
IC101	0911-070-7-00	LA1266
IC102	0911-052-6-00	BA1332
IC103	0911-125-5-00	LC7218
IC401	0037-164-0-00	HD404728S-A59
IC402	0911-152-4-00	S-2914AR/10
IC501	0911-013-1-00	NJM4559D
IC502	0911-098-8-00	TC9164N
IC503	0911-080-9-00	BA4558
	or 0911-006-1-00	NJM4558D
IC504	0911-006-1-00	NJM4558D
	or 0911-080-9-00	BA4558
IC505	0911-044-5-00	BU4053B
	or 0911-016-8-00	TC4053BP
IC506	0911-080-900	BA4558
	or 0911-006-1-00	NJM4558D
IC507	0911-152-3-00	TC9215P
IC508	0911-150-5-00	TA7291S
IC509	0911-153-9-00	PST573D
⚠IC510	0911-132-3-00	NJM78M56FA
Q101	0906-205-3-19	2SC1740SLN-S
Q102	0906-205-7-25	2SK161-Y
	or 0906-205-7-55	2SK161-GR
Q103	0906-229-0-00	DTC144TS
Q104	0906-229-0-00	DTC144TS
Q105	0906-228-9-25	2SC2669-Y
Q106	0906-228-9-25	2SC2669-Y
Q107	0906-229-0-00	DTC144TS
Q108	0906-229-0-00	DTC144TS
Q109	0906-229-0-00	DTC144TS

SYMBOL No.	PART No.	DESCRIPTION
Q110	0906-229-0-00	DTC144TS
Q111	0906-203-3-19	2SC1740S-S
Q112	0906-203-1-00	DTC124ES
Q113	0906-203-1-00	DTC124ES
Q114	0906-229-0-00	DTC144TS
Q115	0906-229-0-00	DTC144TS
Q116	0906-203-3-19	2SC1740S-S
Q117	0906-203-3-19	2SC1740S-S
Q118	0906-203-3-19	2SC1740S-S
Q119	0906-203-3-19	2SC1740S-S
Q120	0906-208-7-00	DTA114ES
Q121	0906-208-7-00	DTA114ES
Q122	0906-208-7-00	DTA114ES
Q124	0906-203-3-19	2SC1740S-S
Q125	0906-203-3-19	2SC1740S-S
Q201	0906-202-2-00	DTC114TS
	or 0906-206-4-01	BA1A4Z
	or 0906-227-6-00	RN1211
Q202	0906-203-3-18	2SC1740S-R
Q203	0906-203-5-02	2SC2878-B
Q204	0906-203-5-02	2SC2878-B
Q301	0906-227-6-00	RN1211
	or 0906-206-4-01	BA1A4Z
	or 0906-202-2-00	DTC114TS
Q302	0906-203-3-18	2SC1740S-R
Q303	0906-203-5-02	2SC2878-B
Q304	0906-203-5-02	2SC2878-B
Q401	0906-203-3-19	2SC1740S-S
Q402	0906-203-3-19	2SC1740S-S
Q501	0906-203-4-18	2SA933S-R
Q502	0906-226-6-00	RN1202
	or 0906-206-2-05	DTC114ESTP
	or 0906-208-4-00	BA1A4M
Q503	0906-203-3-18	2SC1740S-R
⚠Q504	0902-005-1-25	2SC2236-Y
Q505	0906-203-4-18	2SA933S-R
⚠Q506	0906-200-2-55	2SA1015-GR
Q507	0906-203-3-18	2SC1740S-R
Q508	0906-203-3-18	2SC1740S-R
Q509	0906-203-3-18	2SC1740S-R
Q510	0900-002-4-25	2SA966-Y
JACKS		
J101	0033-257-0-00	Antenna plug [for E(BS), E]
	0033-256-0-00	Antenna plug [for E(Z)]
J102	0034-001-0-01	Antenna terminal 4P
J501	0034-004-0-00	Pin 2P, YKC21-3085
J502	0034-006-0-00	Pin 8P, YKC21-3037
SWITCHES		
S101	0028-268-0-00	Slide
S401	0028-855-0-00	Tact
S402	0028-855-0-00	Tact
S403	0028-855-0-00	Tact
S404	0028-855-0-00	Tact
S405	0028-855-0-00	Tact
S406	0028-855-0-00	Tact
VARIABLE RESISTORS		
VR101	0031-837-5-02	SF volume control, 5k ohm
	or 0031-835-5-02	SF volume control, 5k ohm
VR102	0031-835-2-03	SF volume control, 20k ohm
	or 0031-837-2-03	SF volume control, 20k ohm
VR103	0031-837-2-03	SF volume control, 20k ohm
	or 0031-835-2-03	SF volume control, 20k ohm
VR104	0031-835-1-04	SF volume control, 100k ohm
	or 0031-837-1-04	SF volume control, 100k ohm

SYMBOL No.	PART No.	DESCRIPTION
VR501	0031-602-5-03	Rotary potentiometer
VR502	0031-602-5-03	Rotary potentiometer
VR503	0031-931-5-03	Potentiometer with motor
TRIMMER CAPACITORS		
TC101	0030-058-0-40	Capacitor, trimmer
	or 0030-058-0-00	Capacitor, trimmer
TC 102	0030-057-0-40	Capacitor, trimmer
	or 0030-057-0-00	Capacitor, trimmer
CONNECTORS		
CN101	0034-786-0-05	Pin, 5 pin
CN102	0034-786-0-08	Pin, 8 pin
CN103	0034-786-0-02	Pin, 2 pin
CN201	0034-700-0-03	Pin, 3 pin
CN301	0034-700-0-03	Pin, 3 pin
CN501	0034-755-0-09	Pin, 9 pin
CN502	0034-755-0-05	Pin, 5 pin
CN503	0034-750-0-05	Pin, 5 pin
CN504	0034-700-0-07	Pin, 7 pin
CN505	0034-700-0-04	Pin, 4 pin
SY501	0034-007-0-09	System connector pin, 9P
SY502	0034-007-0-15	System connector pin, 15P
OTHERS		
CR401	0038-911-0-00	Ceramic resonat
FL401	0040-607-0-00	FL display
IR401	0039-625-0-00	Remove receiver, IS1U60L
PS401	0023-834-0-00	Piezo speaker
RF101	0039-624-0-00	RF module, FE415-G11
X101	0038-117-0-00	Crystal 7.2 MHz
X401	0038-063-0-00	Crystal 32.768 kHz
ACCESSORIES		
	2501-910-0-02	Gift box
	2501-915-0-00	Mirror mat
CABINET		
401	2380-600-0-01	Sub panel ass
402	0033-208-0-00	Earth terminal
403	0033-257-0-00	Antenna plug [for E, E(BS)]
	0033-256-0-00	Antenna plug [for E(Z)]
404	2501-866-0-00	Foot
405	2380-811-0-00	Bottom chassis
406	2380-813-0-03	Back panel [for E, E(BS)]
	2380-603-0-02	Back panel ass [for E(Z)]
407	2380-831-0-01	VR knob set
408	2380-861-0-01	Tone knob
409	2380-862-0-01	Function button
410	2380-863-0-01	Power button
411	2380-870-0-00	PCB supporter
412	2380-871-0-00	PCB angle
413	2380-872-0-00	VR bracket
414	2380-880-0-00	PCB spacer
415	2501-812-0-01	Metal case
416	2380-550-0-00	Shield plate
417	2380-546-0-00	Lug washer W/wire, L120
418	0973-230-0-85	BT screw B3x8-SK
419	0972-730-0-63	ST screw B3x6-SBK
420	0972-730-0-65	ST screw B3x6-SK
421	0972-730-1-45	ST screw B3x14-SK
422	0973-230-0-83	BT screw B3x8-SBK
423	2501-881-0-00	Foot R

SYMBOL No.	PART No.	DESCRIPTION
424 to 450	Not used.	
451	2380-545-0-00	Lug washer W/wire, L105
452 to 480	Not used.	
481	1600-779-0-00	Connector plate SP [for E, E(BS)]

DISASSEMBLY INSTRUCTIONS

COMPACT DISC

1. Remove five screws Ⓐ holding the metal case.

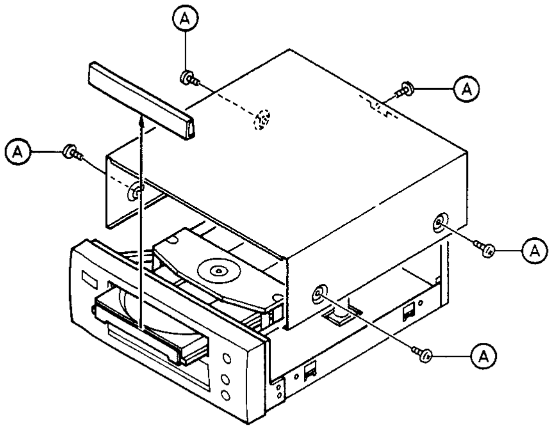


Figure 1

2. Remove five screws Ⓑ holding the sub panel assembly.
3. Remove four screws Ⓒ holding the display PWB.
4. Remove four screws Ⓓ holding the CD mechanism assembly.

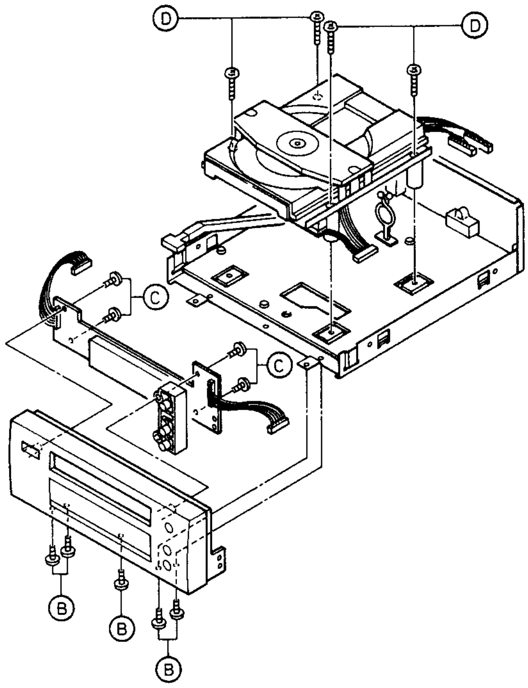


Figure 2

5. Remove ten screws Ⓔ holding the CD amplifier PWB.

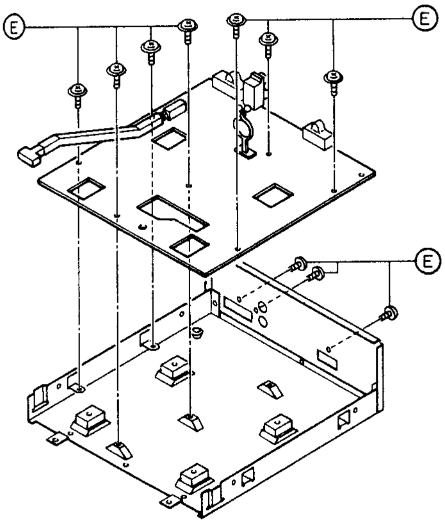


Figure 3

CD Mechanism (Figure 4)

① Push the tab to front side.
② Take out the stopper upper side.
③ Open the two tabs on the main chassis.
④ Take out the tray to front side.

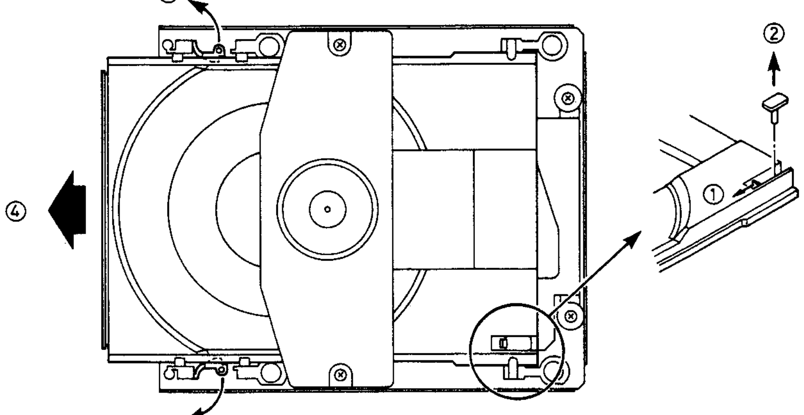


Figure 4

INSTRUCTION FOR HANDLING OPTICAL SYSTEM BLOCK PICKUP

Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, human body, etc.
A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

1. **Ground for Human Body**
Be sure to wear a grounding band (1M ohm) that is properly grounded to remove any static electricity that may be charged on the body.

2. **Ground for Work Bench**
Be sure to place a conductive sheet (1M ohm) or copper plate with proper grounding on the work bench or other surface on which the pickup is to be placed.

3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing contact the pickup unit.

Incorrect

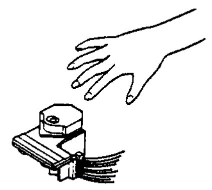


Figure 5

Correct

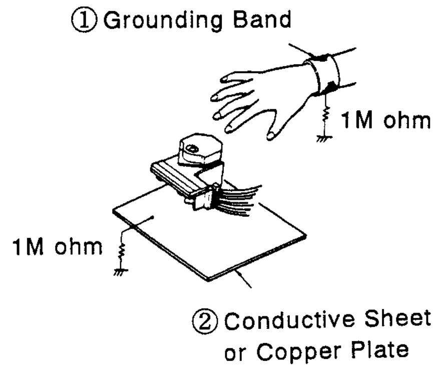


Figure 6

Note: Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

PRECAUTIONS FOR CHECKING BEAM EMISSION OF LASER DIODE

The laser beam of this unit is focused on the reflecting surface of the objective lens in the optical system block. Therefore, keep your eyes at least 12 inches (30cm) away from the objective lens when the laser diode is ON.

Operation Check Method for Laser Diode and Focus Search Function
When the POWER switch is turned ON after the chucking arm is removed, observe the objective lens and confirm that the following operations are performed properly.
(The optical system block should be at the lead-in area position when it is checked at this time.)
(1) The disc table should be at the innermost positoin after the chucking arm is removed.
(2) This diffused light of the laser beam can be seen when the POWER switch is turned ON.
(3) Vertical (up and down) movement of the objective lens (2 or 3 times) will take place.

PICKUP REPLACEMENT

Caution:
Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pickup, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.

1. Remove the CD mechanism assembly by referring to Disassembly instructions.

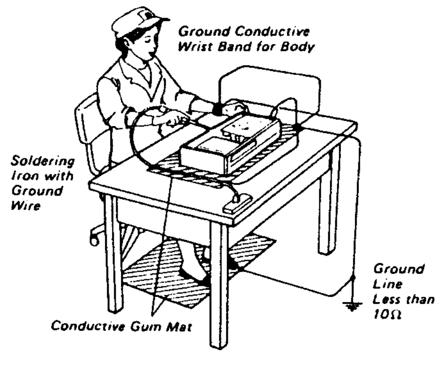

Ground Conductive Wrist Band for Body
Soldering Iron with Ground Wire
Conductive Gum Mat
Ground Line Less than 10Ω

Figure 7

4. Take out the pickup ①. Then pull out the shaft ②. (See Figure 9)

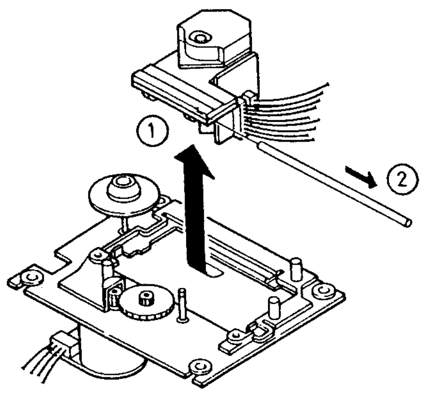


Figure 9

6. Refer to the drawings of exploded view of the compact disc mechanism in page 83 for the detailed information.

2. Remove a washer Ⓐ holding the gear. (See Figure 8.)

3. Remove two screws Ⓑ. (See Figure 8.)

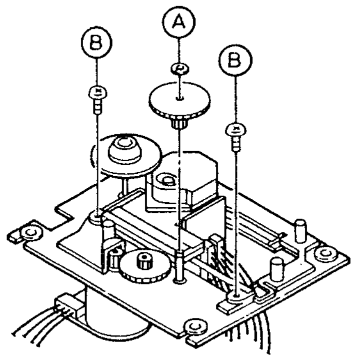


Figure 8

5. After you connect the wire connector, desolder and remove the shorting tab. (See Figure 10)

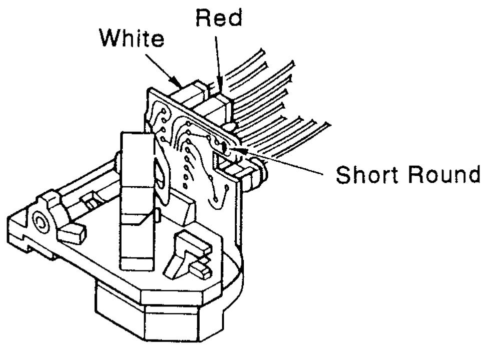


Figure 10-1

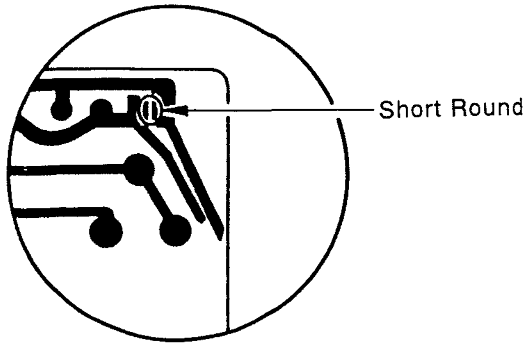


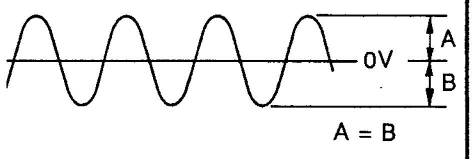
Figure 10-2

CD ADJUSTMENT

PLL (Phase Locked Loop) Adjustment

Step	Connect	Setting	Adjust	Remarks
1	See Figure 11	Push the power switch to on.	VR105	Counter reading to be 4.32MHz. Connect TP104 (ASY) to TP103 (Gnd).

E-F Balance Adjustment

Step	Connect	Setting	Adjust	Remarks
1	See Figure 12	Play the test disc, Sony YEDS-7.		 A = B Tracking error signal (TE).
2		Push the "◁◁" or "▷▷" key on a remocon to set to FF or FB mode.	VR101	

Focus Servo Offset Adjustment

Step	Connect	Setting	Adjust	Remarks
1	See Figure 13	STOP mode	VR102	Adjust the VR102 to obtain the focus servo offset voltage 250 ±20mV at the stop mode.

PLL (Phase Locked Loop) Adjustment

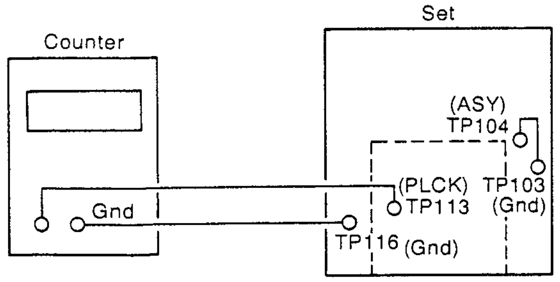

Set
Counter
Gnd
(ASY)
TP104
(PLCK) TP103
TP113 (Gnd)
TP116 (Gnd)

Figure 11

Focus Servo Adjustment

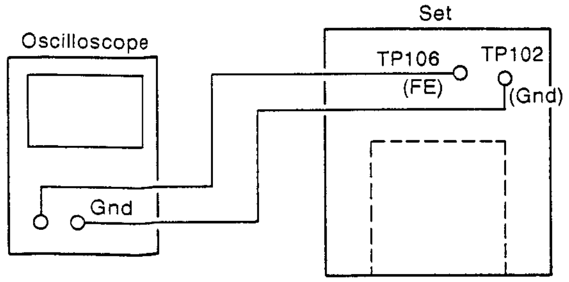

Set
Oscilloscope
TP106
(FE)
TP102
(Gnd)
Gnd

Figure 13

E-F Balance Adjustment

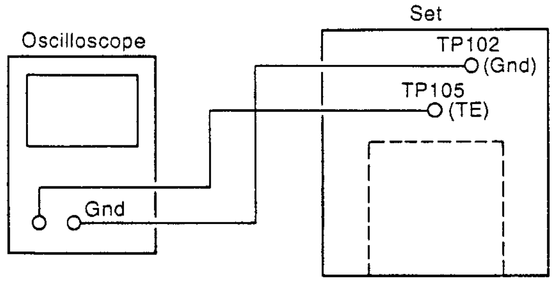
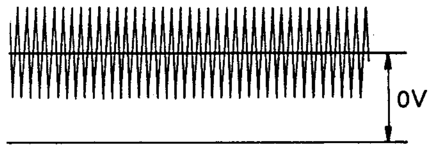
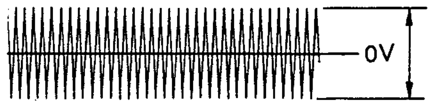

Set
Oscilloscope
TP102
(Gnd)
TP105
(TE)
Gnd

Figure 12

Focus Servo Gain Adjustment

Step	Connect	Setting	Adjust	Remarks
1	See Figure 14	Play the test disc, Sony YEDS-7	VR103	 Focus error signal of about 100mV.

Tracking Servo Gain Adjustment

Step	Connect	Setting	Adjust	Remarks
1	See Figure 15	Play the test disc, Sony YEDS-7	VR104	 Obtain the tracking drive signal of about 1Vp-p.

Focus Servo Gain Adjustment

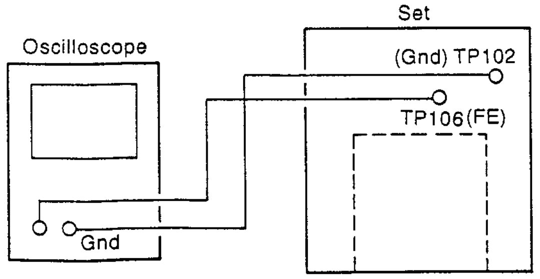

Set
Oscilloscope
(Gnd) TP102
TP106(FE)
Gnd

Figure 14

Tracking Servo Gain Adjustment

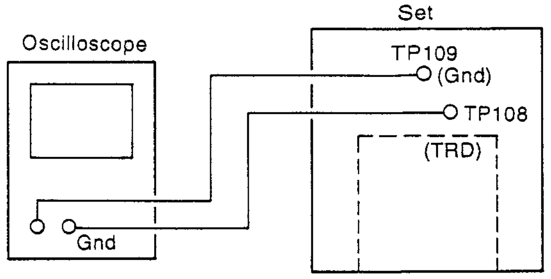
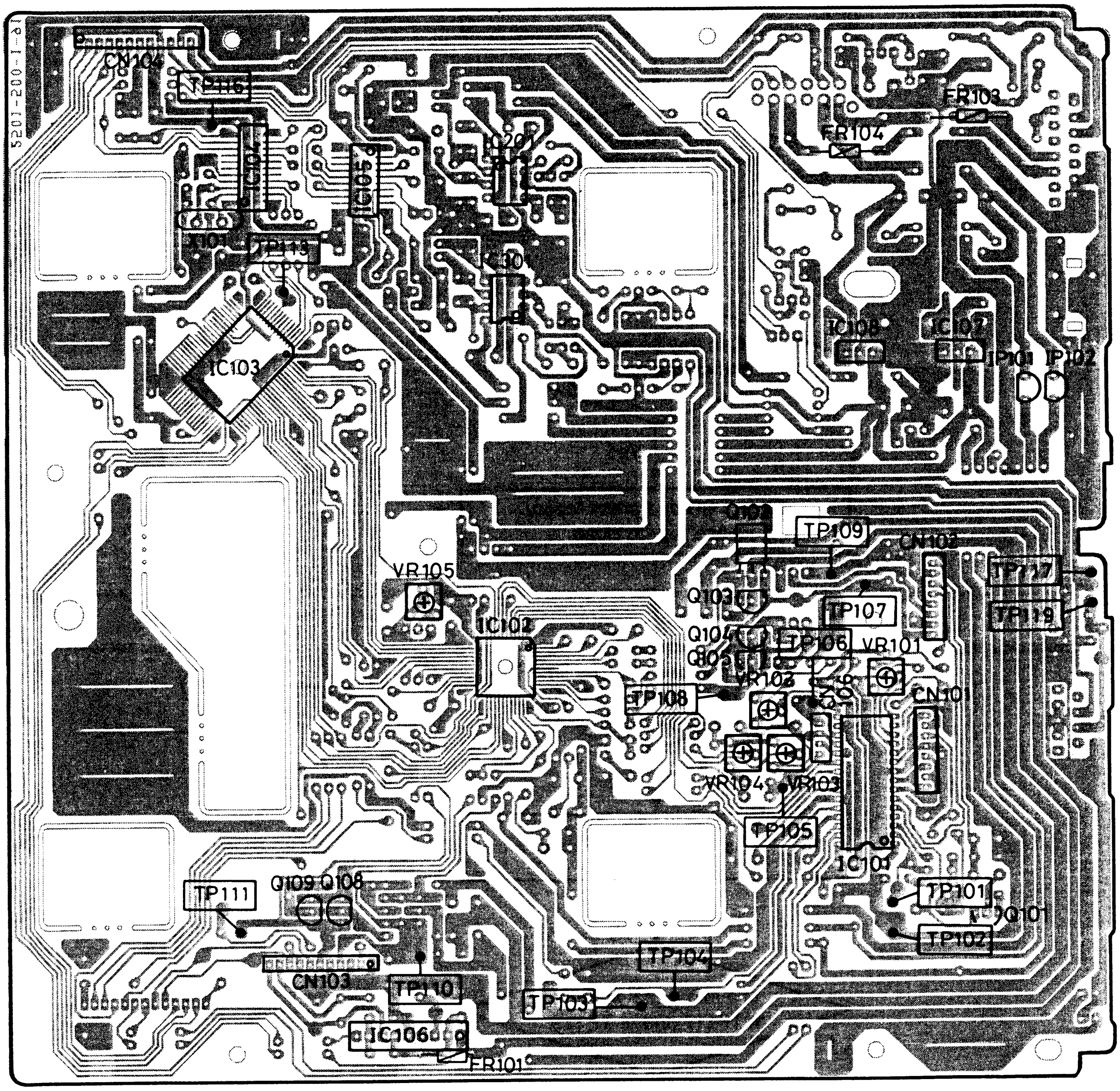

Set
Oscilloscope
TP109
(Gnd)
TP108
(TRD)
Gnd

Figure 15

CD PWB Top View


5201-200-1-81
CN104
TP116
IC101
IC105
IC201
IC301
TP113
IC103
FR103
FR104
IC108
IC107
IP101
IP102
Q102
TP109
CN102
TP117
TP119
VR105
IC102
Q103
TP107
Q104
TP106
VR101
Q105
VR102
TP108
CN101
VR104
VR103
TP105
IC101
TP101
Q101
TP102
TP111
Q109
Q108
CN103
TP110
TP104
TP103
IC106
FR101

CD Display PWB Top View

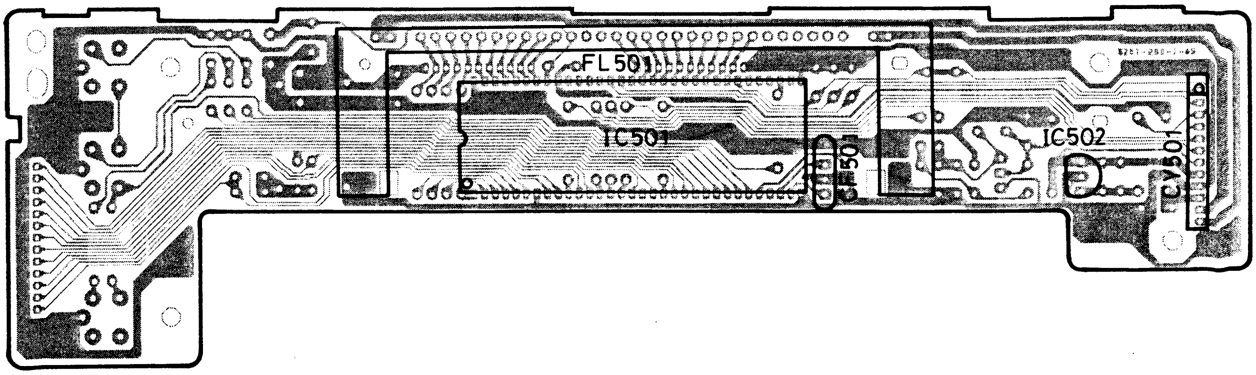

FL501
IC501
CF501
IC502
CN501

Figure 16

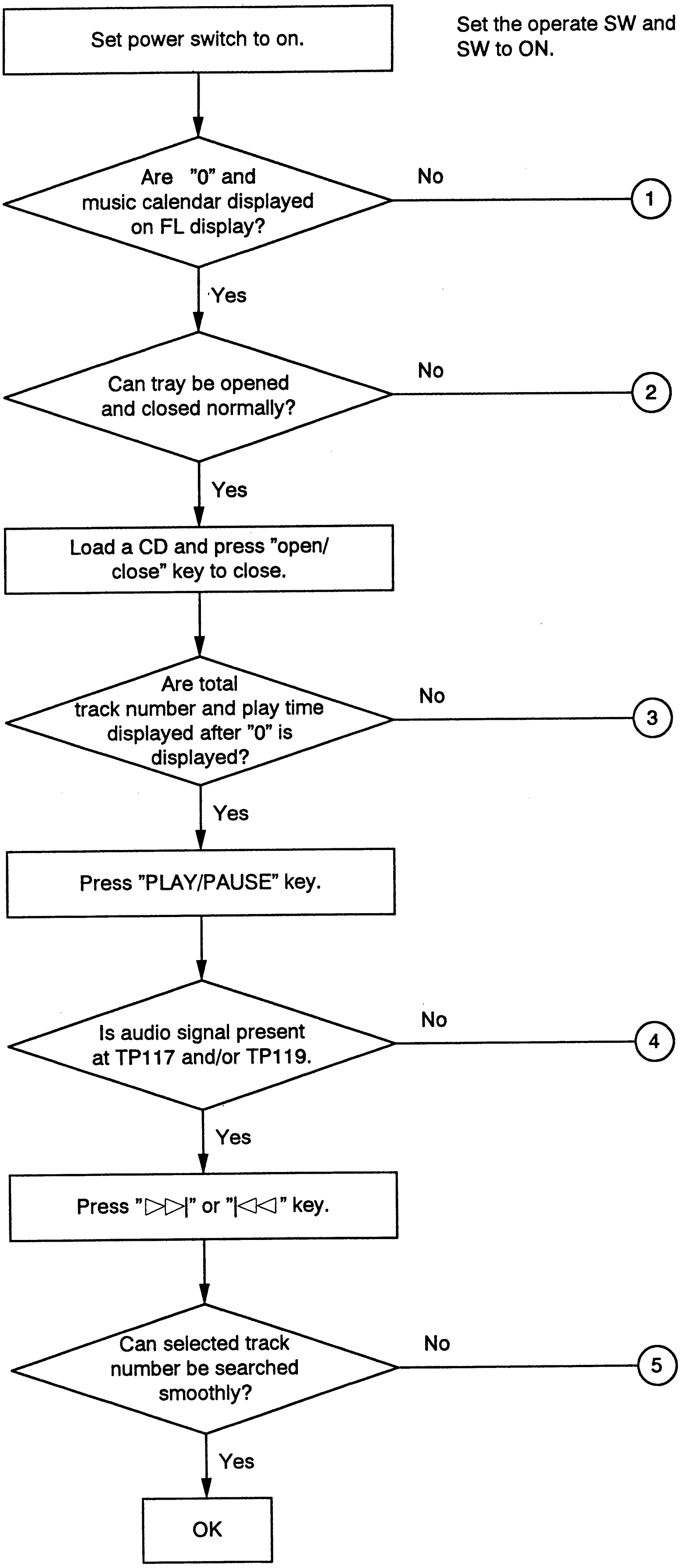
TROUBLESHOOTING

SW → Switch

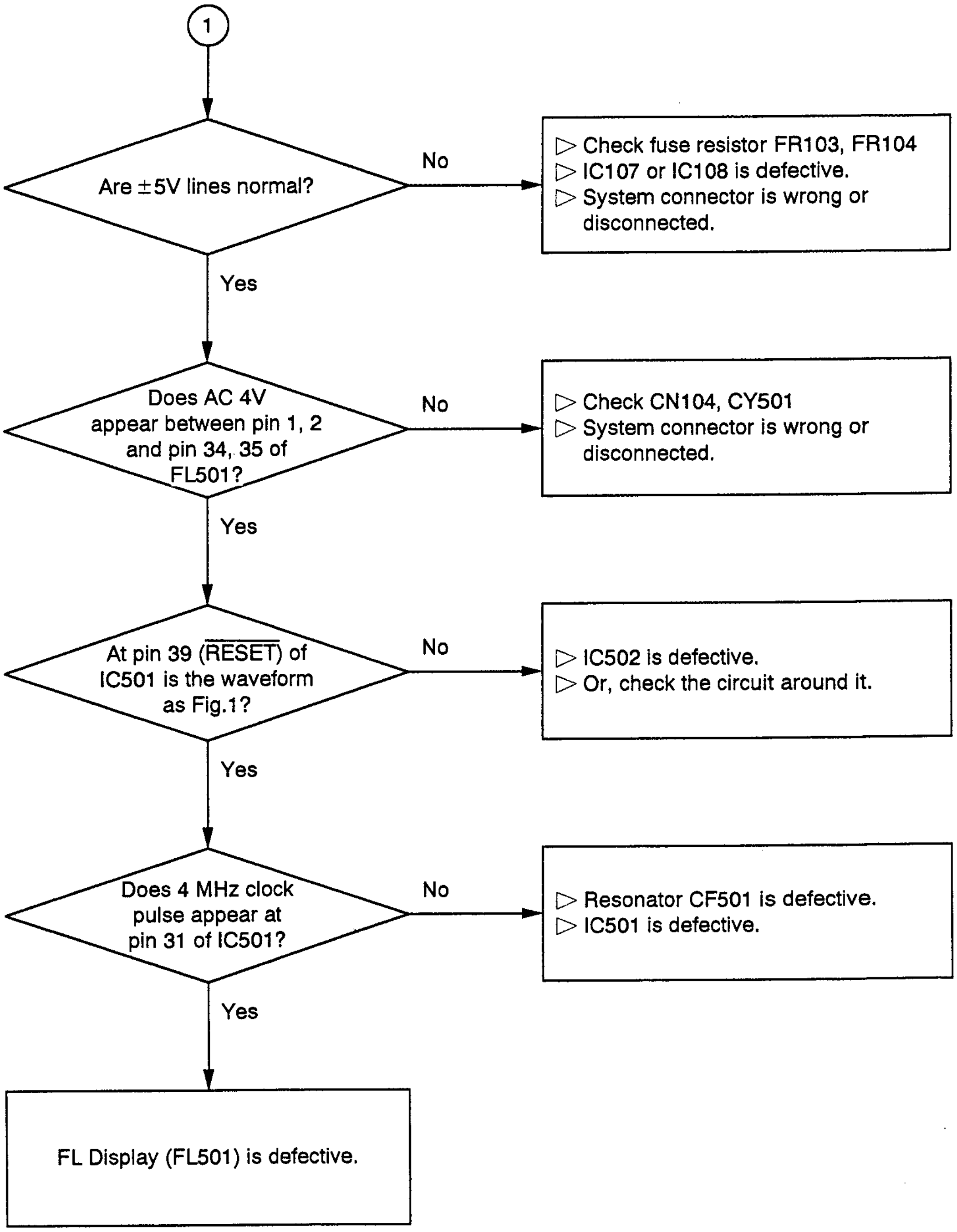
Compact Disc

(See Figure 16)

Set the operate SW and CD operate SW to ON.


Set power switch to on.
Are "0" and music calendar displayed on FL display?
No
1
Yes
Can tray be opened and closed normally?
No
2
Yes
Load a CD and press "open/close" key to close.
Are total track number and play time displayed after "0" is displayed?
No
3
Yes
Press "PLAY/PAUSE" key.
Is audio signal present at TP117 and/or TP119.
No
4
Yes
Press "▷▷|" or "|◁◁" key.
Can selected track number be searched smoothly?
No
5
Yes
OK

[Repair Item 1] At power on, "music calendar" and "0" are not displayed.


1
Are ±5V lines normal?
No
▷ Check fuse resistor FR103, FR104
▷ IC107 or IC108 is defective.
▷ System connector is wrong or disconnected.
Yes
Does AC 4V appear between pin 1, 2 and pin 34, 35 of FL501?
No
▷ Check CN104, CY501
▷ System connector is wrong or disconnected.
Yes
At pin 39 ($\overline{\text{RESET}}$) of IC501 is the waveform as Fig.1?
No
▷ IC502 is defective.
▷ Or, check the circuit around it.
Yes
Does 4 MHz clock pulse appear at pin 31 of IC501?
No
▷ Resonator CF501 is defective.
▷ IC501 is defective.
Yes
FL Display (FL501) is defective.

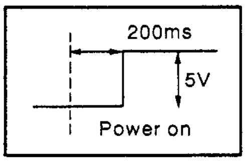
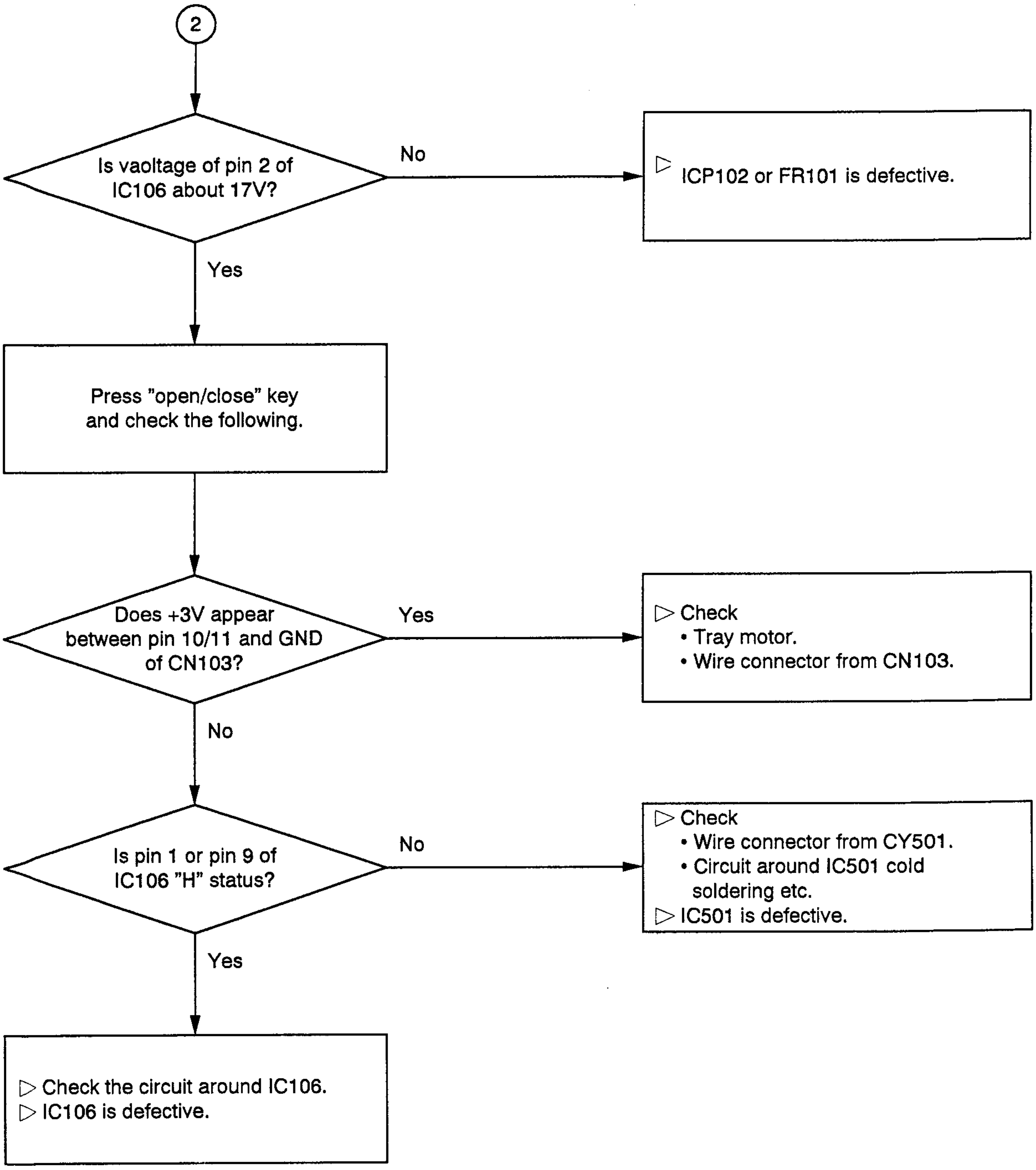
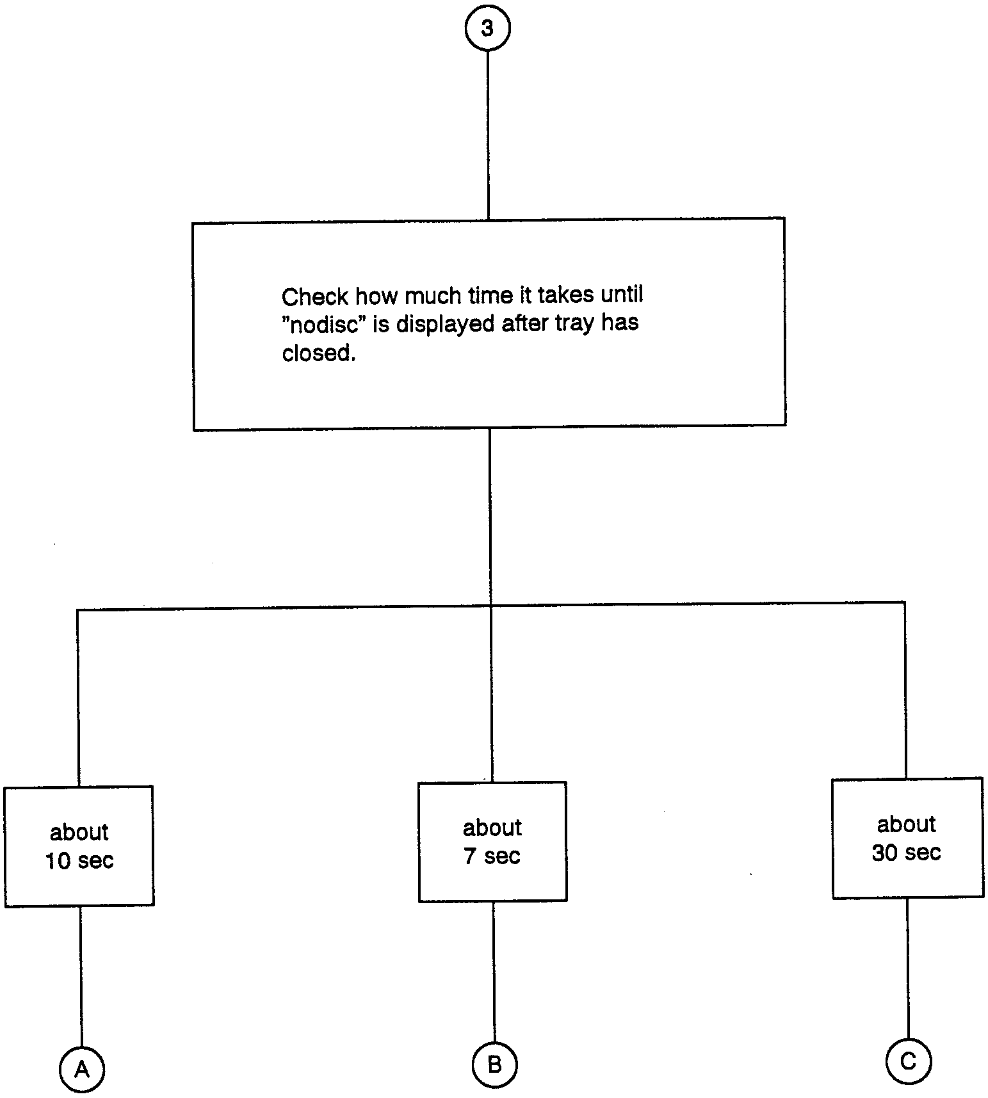

200ms
5V
Power on

Fig. 1

[Repair Item 2] Tray cannot be opened and closed by pressing "open/close" key.


2
Is vaoltage of pin 2 of IC106 about 17V?
No
▷ ICP102 or FR101 is defective.
Yes
Press "open/close" key and check the following.
Does +3V appear between pin 10/11 and GND of CN103?
Yes
▷ Check
• Tray motor.
• Wire connector from CN103.
No
Is pin 1 or pin 9 of IC106 "H" status?
No
▷ Check
• Wire connector from CY501.
• Circuit around IC501 cold soldering etc.
▷ IC501 is defective.
Yes
▷ Check the circuit around IC106.
▷ IC106 is defective.

[Repair Item 3] "nodisc" is displayed instead of total track number and play time after "0" is displayed.


3
Check how much time it takes until "nodisc" is displayed after tray has closed.
about 10 sec
about 7 sec
about 30 sec
A
B
C

[Repair Item 3-A]

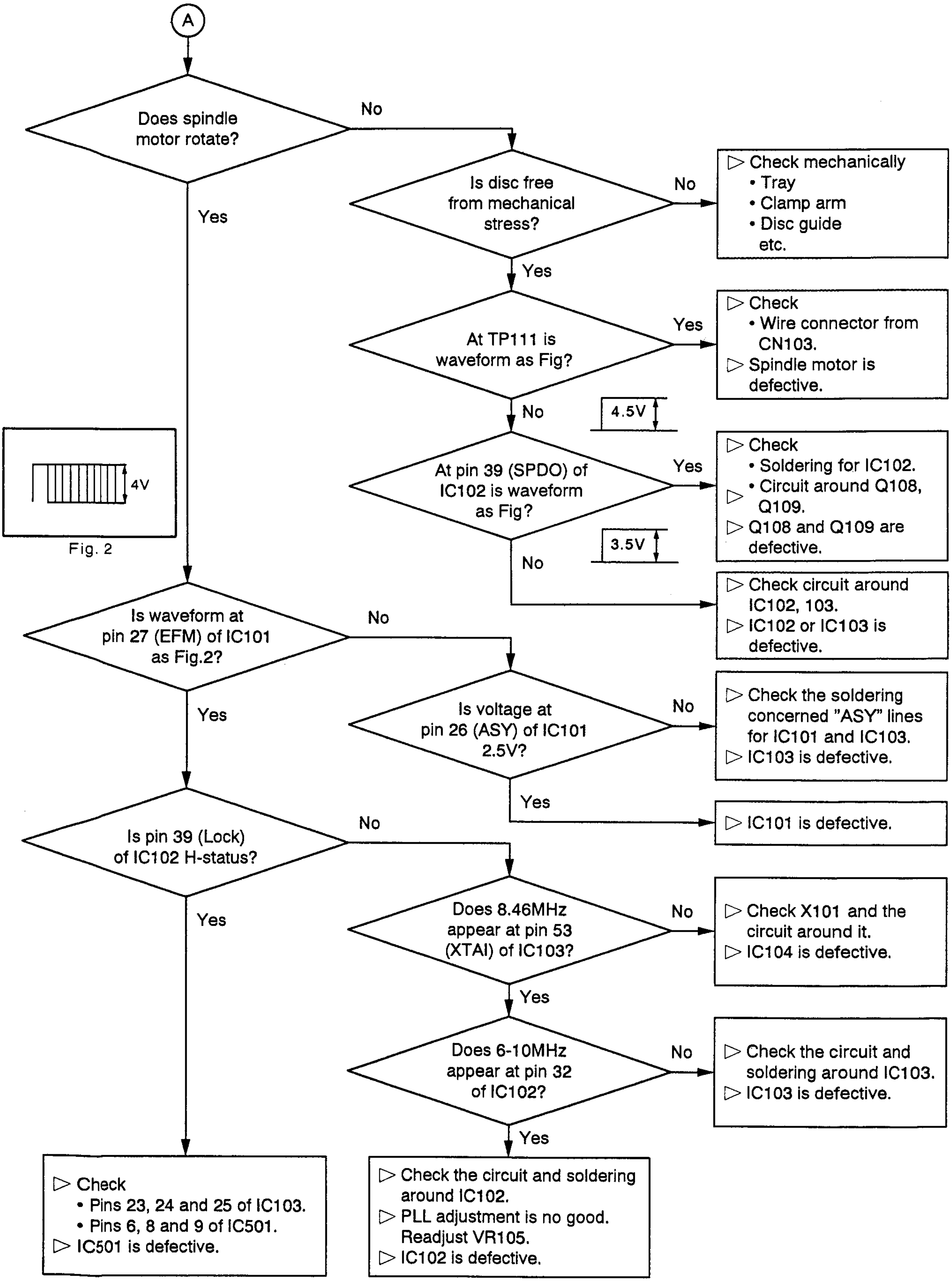
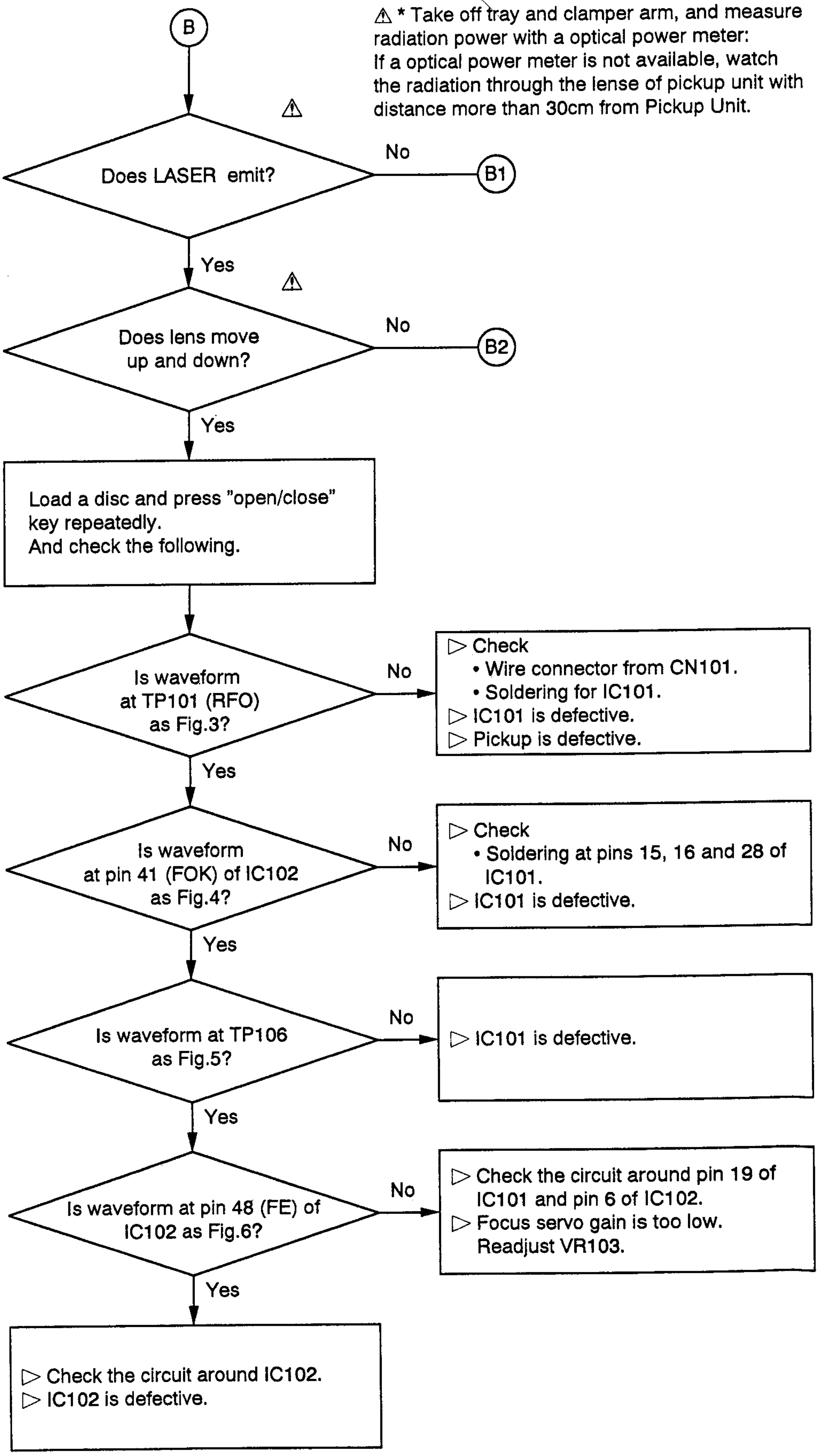

A
Does spindle motor rotate?
No
Is disc free from mechanical stress?
No
▷ Check mechanically
• Tray
• Clamp arm
• Disc guide
etc.
Yes
At TP111 is waveform as Fig?
Yes
▷ Check
• Wire connector from CN103.
▷ Spindle motor is defective.
No
4.5V
At pin 39 (SPDO) of IC102 is waveform as Fig?
Yes
▷ Check
• Soldering for IC102.
• Circuit around Q108, Q109.
▷ Q108 and Q109 are defective.
3.5V
No
▷ Check circuit around IC102, 103.
▷ IC102 or IC103 is defective.
Yes
4V
Is waveform at pin 27 (EFM) of IC101 as Fig.2?
No
Is voltage at pin 26 (ASY) of IC101 2.5V?
No
▷ Check the soldering concerned "ASY" lines for IC101 and IC103.
▷ IC103 is defective.
Yes
▷ IC101 is defective.
Yes
Is pin 39 (Lock) of IC102 H-status?
No
Does 8.46MHz appear at pin 53 (XTAI) of IC103?
No
▷ Check X101 and the circuit around it.
▷ IC104 is defective.
Yes
Does 6-10MHz appear at pin 32 of IC102?
No
▷ Check the circuit and soldering around IC103.
▷ IC103 is defective.
Yes
▷ Check the circuit and soldering around IC102.
▷ PLL adjustment is no good. Readjust VR105.
▷ IC102 is defective.
Yes
▷ Check
• Pins 23, 24 and 25 of IC103.
• Pins 6, 8 and 9 of IC501.
▷ IC501 is defective.

Fig. 2

[Repair Item 3-B]


B
⚠
Does LASER emit?
No
B1
Yes
⚠
Does lens move up and down?
No
B2
Yes
Load a disc and press "open/close" key repeatedly. And check the following.
Is waveform at TP101 (RFO) as Fig.3?
No
▷ Check
• Wire connector from CN101.
• Soldering for IC101.
▷ IC101 is defective.
▷ Pickup is defective.
Yes
Is waveform at pin 41 (FOK) of IC102 as Fig.4?
No
▷ Check
• Soldering at pins 15, 16 and 28 of IC101.
▷ IC101 is defective.
Yes
Is waveform at TP106 as Fig.5?
No
▷ IC101 is defective.
Yes
Is waveform at pin 48 (FE) of IC102 as Fig.6?
No
▷ Check the circuit around pin 19 of IC101 and pin 6 of IC102.
▷ Focus servo gain is too low. Readjust VR103.
Yes
▷ Check the circuit around IC102.
▷ IC102 is defective.

⚠ * Take off tray and clamper arm, and measure radiation power with a optical power meter:
If a optical power meter is not available, watch the radiation through the lense of pickup unit with distance more than 30cm from Pickup Unit.

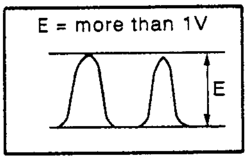

E = more than 1V
E

Fig. 3

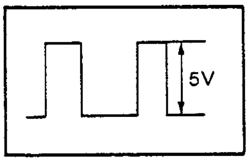


Fig. 4

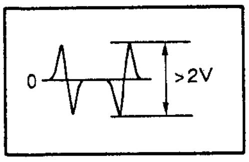


Fig. 5

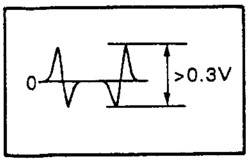
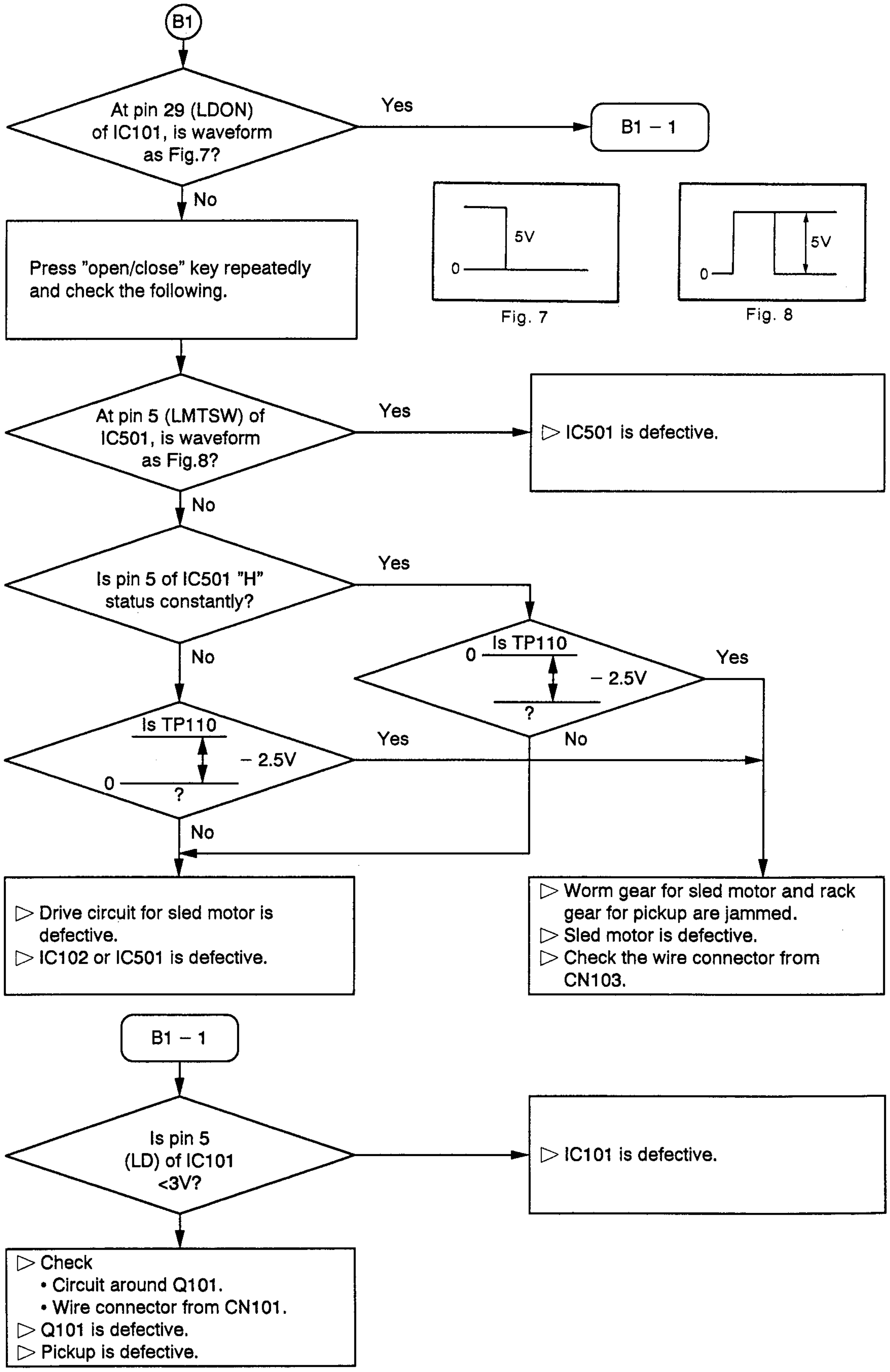
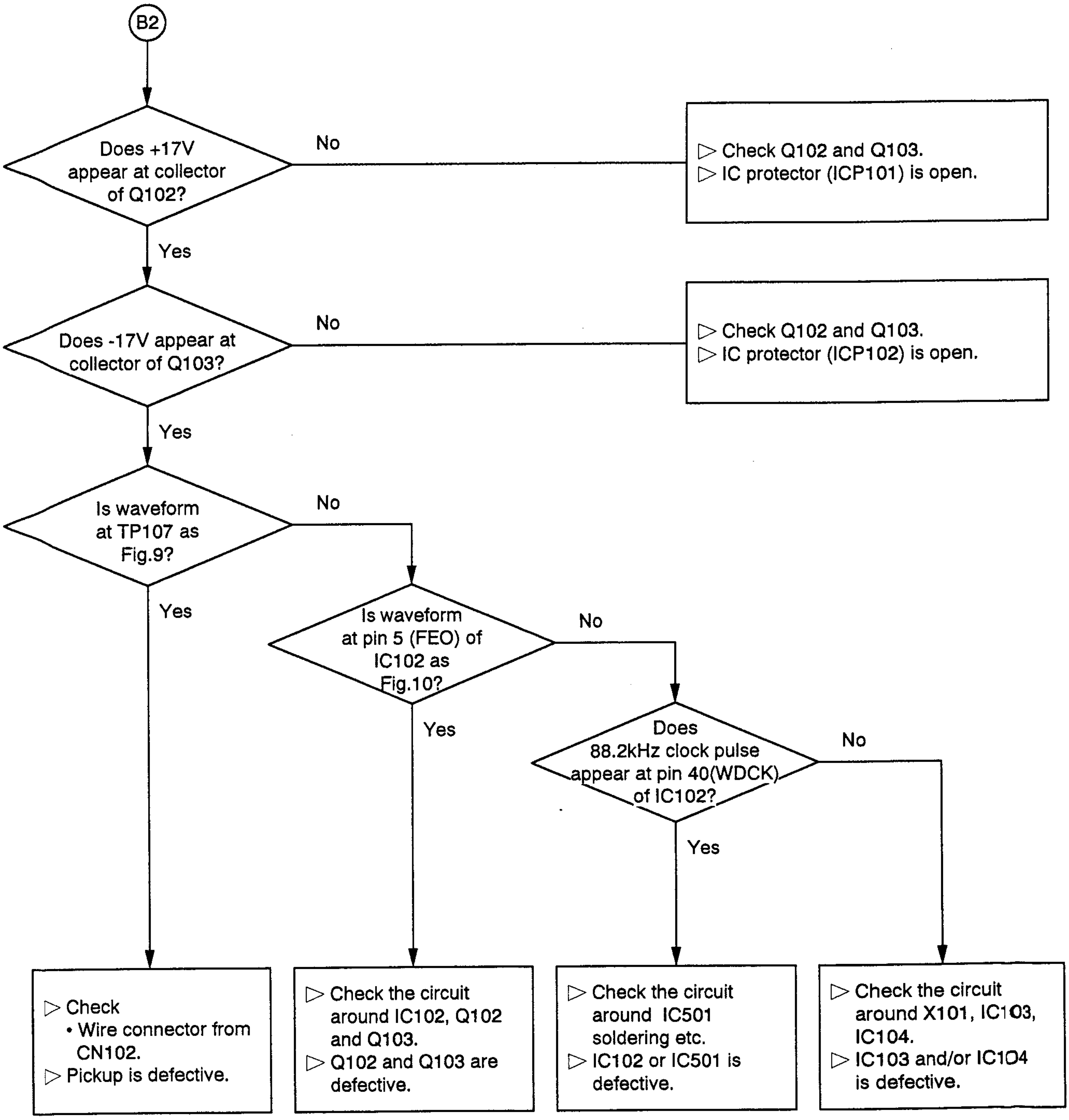


Fig. 6

[Repair Item 3-B1] LASER does not emit.


B1
At pin 29 (LDON) of IC101, is waveform as Fig.7?
Yes
B1 – 1
No
Press "open/close" key repeatedly and check the following.
5V
0
Fig. 7
5V
0
Fig. 8
At pin 5 (LMTSW) of IC501, is waveform as Fig.8?
Yes
▷ IC501 is defective.
No
Is pin 5 of IC501 "H" status constantly?
Yes
No
Is TP110
0
– 2.5V
?
Yes
No
Is TP110
– 2.5V
0
?
Yes
No
▷ Drive circuit for sled motor is defective.
▷ IC102 or IC501 is defective.
▷ Worm gear for sled motor and rack gear for pickup are jammed.
▷ Sled motor is defective.
▷ Check the wire connector from CN103.
B1 – 1
Is pin 5 (LD) of IC101 <3V?
▷ IC101 is defective.
▷ Check
• Circuit around Q101.
• Wire connector from CN101.
▷ Q101 is defective.
▷ Pickup is defective.

[Repair Item 3-B2] Object lens of pickup unit does not move up and down.



Does +17V appear at collector of Q102?

No: ▷ Check Q102 and Q103.
▷ IC protector (ICP101) is open.

Does -17V appear at collector of Q103?

No: ▷ Check Q102 and Q103.
▷ IC protector (ICP102) is open.

Is waveform at TP107 as Fig.9?

Yes: ▷ Check
- Wire connector from CN102.

▷ Pickup is defective.

Is waveform at pin 5 (FEO) of IC102 as Fig.10?

Yes: ▷ Check the circuit around IC102, Q102 and Q103.
▷ Q102 and Q103 are defective.

Does 88.2kHz clock pulse appear at pin 40(WDCK) of IC102?

Yes: ▷ Check the circuit around IC501 soldering etc.
▷ IC102 or IC501 is defective.

No: ▷ Check the circuit around X101, IC103, IC104.
▷ IC103 and/or IC104 is defective.

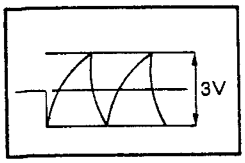


Fig. 9

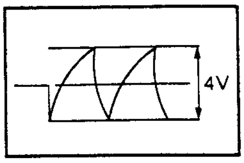
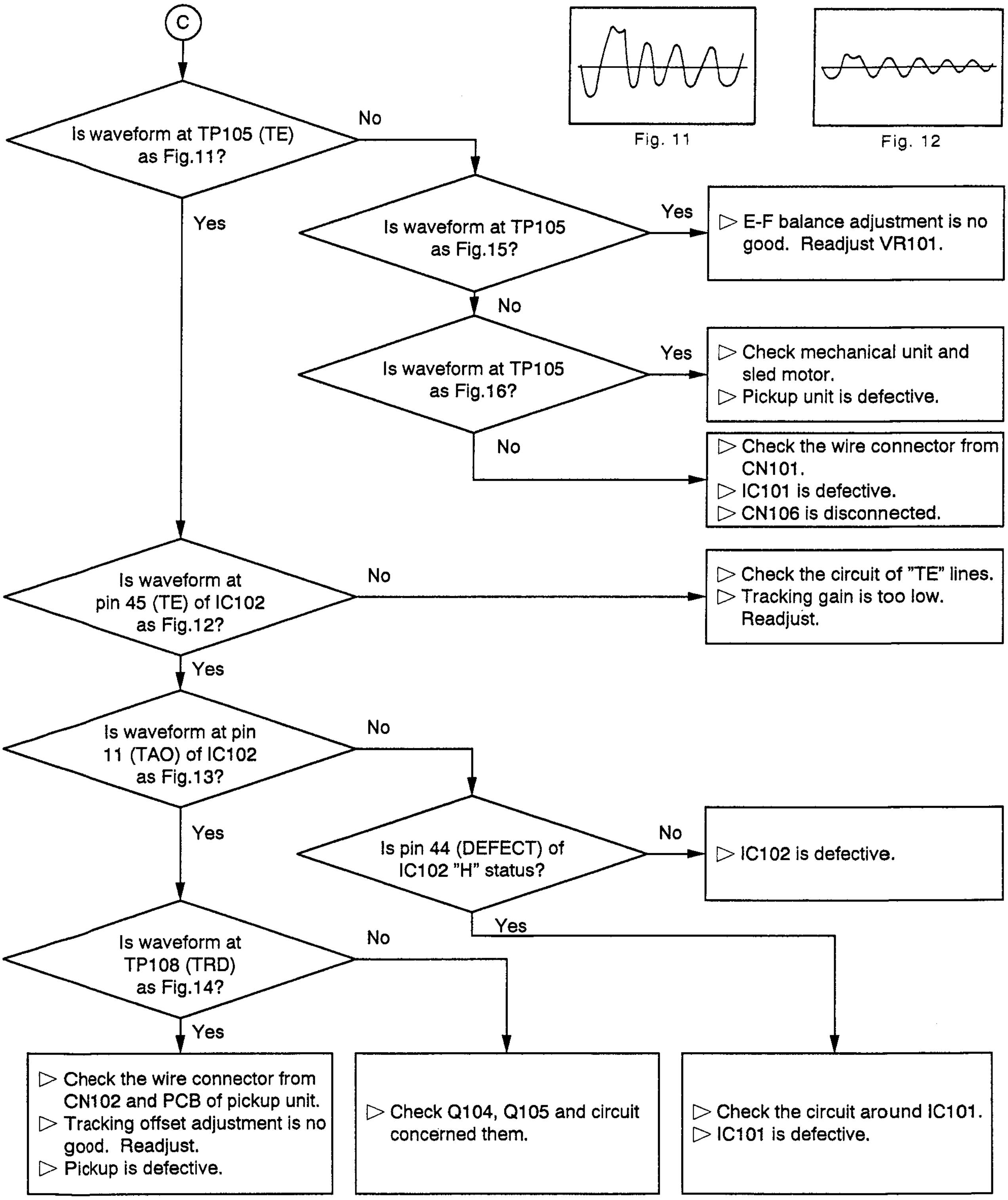


Fig. 10

[Repair Item 3-C]



Is waveform at TP105 (TE) as Fig.11?

Is waveform at TP105 as Fig.15?

▷ E-F balance adjustment is no good. Readjust VR101.

Is waveform at TP105 as Fig.16?

▷ Check mechanical unit and sled motor.
▷ Pickup unit is defective.

▷ Check the wire connector from CN101.
▷ IC101 is defective.
▷ CN106 is disconnected.

Is waveform at pin 45 (TE) of IC102 as Fig.12?

▷ Check the circuit of "TE" lines.
▷ Tracking gain is too low. Readjust.

Is waveform at pin 11 (TAO) of IC102 as Fig.13?

Is pin 44 (DEFECT) of IC102 "H" status?

▷ IC102 is defective.

Is waveform at TP108 (TRD) as Fig.14?

▷ Check the wire connector from CN102 and PCB of pickup unit.
▷ Tracking offset adjustment is no good. Readjust.
▷ Pickup is defective.

▷ Check Q104, Q105 and circuit concerned them.

▷ Check the circuit around IC101.
▷ IC101 is defective.

Fig. 11

Fig. 12

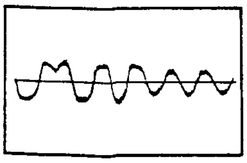


Fig. 13

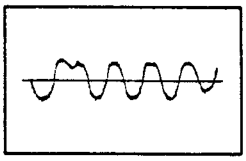


Fig. 14

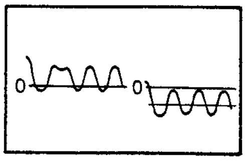


Fig. 15

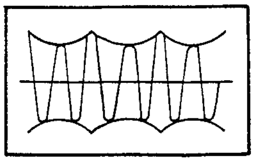


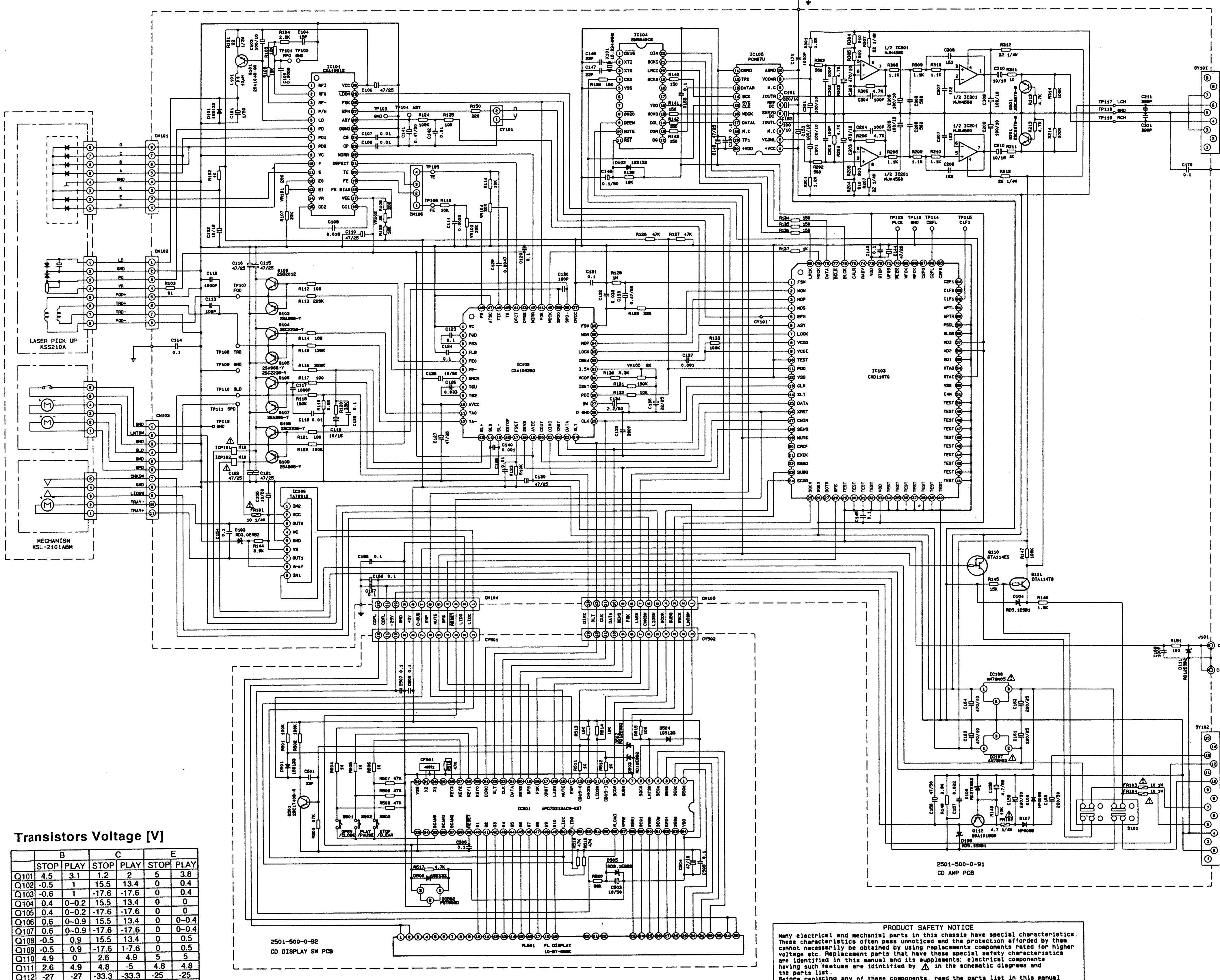
Fig. 16

SCHEMATIC DIAGRAM

Compact Disc

Make leakage current or resistance mesurements to determine that exposed metal parts are acceptably insulated from the supply circuit before returniig the appliance to the customer.

Leakage current from headphone jack should not exceed 0.5 mA as measured through a 1.5 Kohm resistor paralleled by a 0.15 mfd capacitor to the earth ground.


LASER PICK UP
KSS210A
MECHANISM
KSL-2101ABM
IC101
CXA1081S
IC102
CXA1082BQ
IC103
CXD1167Q
IC104
IC105
PCM67U
IC106
TA7291S
IC501
uPD75212ACW-A27
1/2 IC301
NJM4560
1/2 IC201
NJM4560
CN101
CN102
CN103
CN104
CN105
CY101
CY501
CY502
SY101
SY102
FL501
FL DISPLAY
2501-500-0-91
CD AMP PCB
2501-500-0-92
CD DISPLAY SW PCB

PRODUCT SAFETY NOTICE

Many electrical and mechanial parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacements components rated for higher voltage etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such featues are idintified by ⚠ in the schematic diagrams and the parts list.

Before replacing any of these components. read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock. fire. or other hazards.

Transistors Voltage [V]

	B		C		E	
	STOP	PLAY	STOP	PLAY	STOP	PLAY
Q101	4.5	3.1	1.2	2	5	3.8
Q102	-0.5	1	15.5	13.4	0	0.4
Q103	-0.6	1	-17.6	-17.6	0	0.4
Q104	0.4	0~0.2	15.5	13.4	0	0
Q105	0.4	0~0.2	-17.6	-17.6	0	0
Q106	0.6	0~0.9	15.5	13.4	0	0~0.4
Q107	0.6	0~0.9	-17.6	-17.6	0	0~0.4
Q108	-0.5	0.9	15.5	13.4	0	0.5
Q109	-0.5	0.9	-17.6	1-7.6	0	0.5
Q110	4.9	0	2.6	4.9	5	5
Q111	2.6	4.9	4.8	-5	4.8	4.8
Q112	-27	-27	-33.3	-33.3	-25	-25
Q201	0.7	-2.5	0	0	0	0
Q301	0.7	-2.5	0	0	0	0
Q501	0	0	4.3	4.3	0	0

ICs Voltage [V]

	IC101		IC102		IC103		IC501	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	0	0	0	0	0	0	-1.1	-10
2	0	0.7	0	0.01	0	5	0.6	-3
3	0	0	0	0	0	2.7	-1.1	-5.2
4	–	–	0	0	0.1	2.9	0.8	-12
5	4.5	3.1	-0.6	1	2.7	2.7	5	5
6	-5	-4.8	0	0	2.7	2.6	5	5
7	0	0	0.2	0.2	0	5	0	0
8	0	0	0	0	2.5	2.5	0	2.7
9	0	0	0	0	2.5	2.4	0	0
10	0	0	5	5	0	0	4	4
11	0	0	0.4	0~0.2	2.5	2	5	5
12	0	-0.7	0	0	0	0	0	0
13	0	-0.4	0	0	4.4	4.6	0	0
14	–	–	0.6	0~0.9	5	5	0	0
15	-0.7	-0.9	0	0	3	4	5	0
16	1.2	-1	–	–	5	5	5	0
17	-5	-5	-4	-4	0.1	0.1	–	–
18	0.2	0	4	4	4	4	0	4.8
19	0.2	0	5	5	5	0	0	5
20	0	0	0.1	0.1	–	–	4	4
21	-4	-4	5	5	–	–	3.2	4
22	0	0	5	5	–	–	4.4	4.6
23	-0.2	-0.2	3	4	0	2.7	5	5
24	0	-0.3	5	5	0	0.1	5	5
25	0	0	4.4	4.6	5	5	0	0
26	2.5	2.5	0	0	5	5	0	0
27	2.7	2.7	2.8	0	–	–	0	0
28	0	5	2.8	2.5	0	5	0	0
29	5	0	2.2	2.2	0	0	–	–
30	5	5	2.2	2.2	0	0	0.4	0.4
31			3.6	3.6	0	0	2.5	2.5
32			2.2	2.2	0	0	0	0
33			0	5	5	5	0	0
34			0	2.7	0	0	–	–
35			0	5	0	0	1.6	1.6
36			0	2.6	0	0	–	–
37			5	5	0	0	–	–
38			0	0	0	0	–	–
39			-0.5	1	0	0	5	5
40			2.6	2.6	0	0	-22.5	-22.5
41			5	0	0	0	-22.5	-22.5
42			0	0	0	0	-22.5	-22.5
43			-5	-5	0	0	-22.5	-22.5
44			-4	-4	0	0	-22.5	-22.5
45			0	0	0	0	-22.5	-22.5
46			0	0	0	0	-22.5	-22.5
47			0	0	0	0	-22.5	-22.5
48			0	0	0	0	-22.5	-22.5
49					0	0	-22.5	-22.5
50					0	0	0	0
51					–	–	0	0
52					0	0	–	–
53					2.4	2.4	–	–
54					–	–	–	–
55					0	0	–	–
56					5	5	-25	-25
57					5	5	-3.8	-3.8
58					0	0	-22	-25
59					0	0	-25	-25
60					–	–	-11.5	-11.5
61					–	–	-8.5	-14
62					3.9	0	-6	-14
63					–	–	-14	-14
64					–	–	5	5
65					–	–		
66					2	0		
67					–	–		
68					–	–		
69					–	–		
70					2.6	2.6		
71					–	–		
72					–	–		
73					5	5		
74					–	–		
75					–	–		
76					2.4	2.4		
77					–	–		
78					0	2.5		
79					2.4	2.4		
80					2.6	2.6		

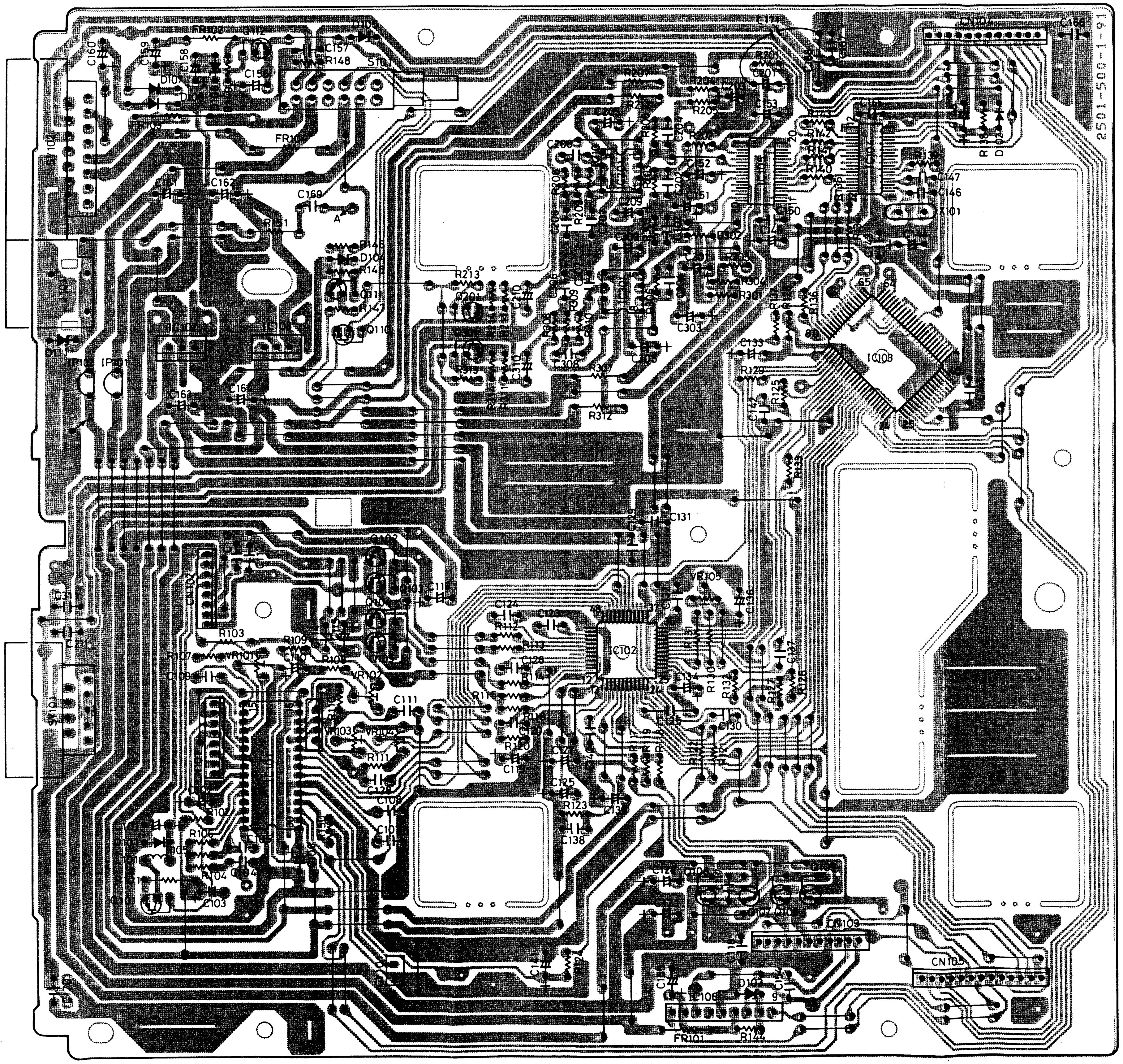
	IC104		IC105		IC106		IC201		IC301	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	–	–	5	5	0	0	0.2	0.2	0.1	0.1
2	0	0	4	4	15.6	13.6	3.1	3.1	0.1	0.1
3	2.5	2.5	–	–	0.5	0.5	3.1	3.1	0.1	0.1
4	2.4	2.4	3.6	3.6	–	–	-4.9	-4.9	-4.9	-4.9
5	0	0	3.4	3.4	0	0	0.2	0.2	3	3
6	–	–	4.6	4.6	15.6	13.6	0.2	0.2	3	3
7	–	–	3.6	3.6	0.5	0.5	0.2	0.2	0	0
8	–	–	–	–	2.9	2.9	4.8	4.8	4.8	4.8
9	0	0	4	4	0	0				
10	5	0	0	0						
11	5	5	0	0						
12	–	–	–	–						
13	0	2.2	0	2.2						
14	0	2.2	1.5	1.5						
15	4.2	4.2	2.4	2.4						
16	5	5	4.2	4.2						
17	–	–	0	2.2						
18	–	–	–	–						
19	1.5	1.5	–	–						
20	2.5	2.5	5	5						
21	2.5	2.5								
22	0	2.5								

	IC107		IC108		IC502	
	STOP	PLAY	STOP	PLAY	STOP	PLAY
1	-5	-5	5	5	5	5
2	-17.6	-17.6	15.5	13.4	0	0
3	0	0	0	0	5	5

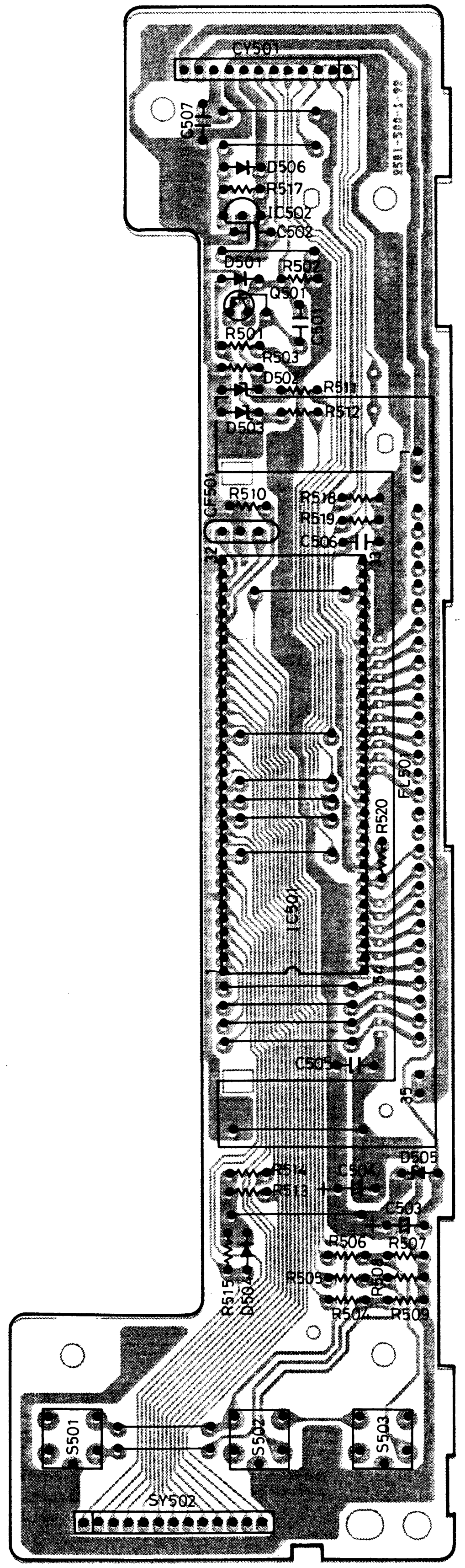
PWB BOTTOM VIEW

NOTE
The Original PWB Top View.
Electrical capacitors: ● mark is plus side.

Compact Disc

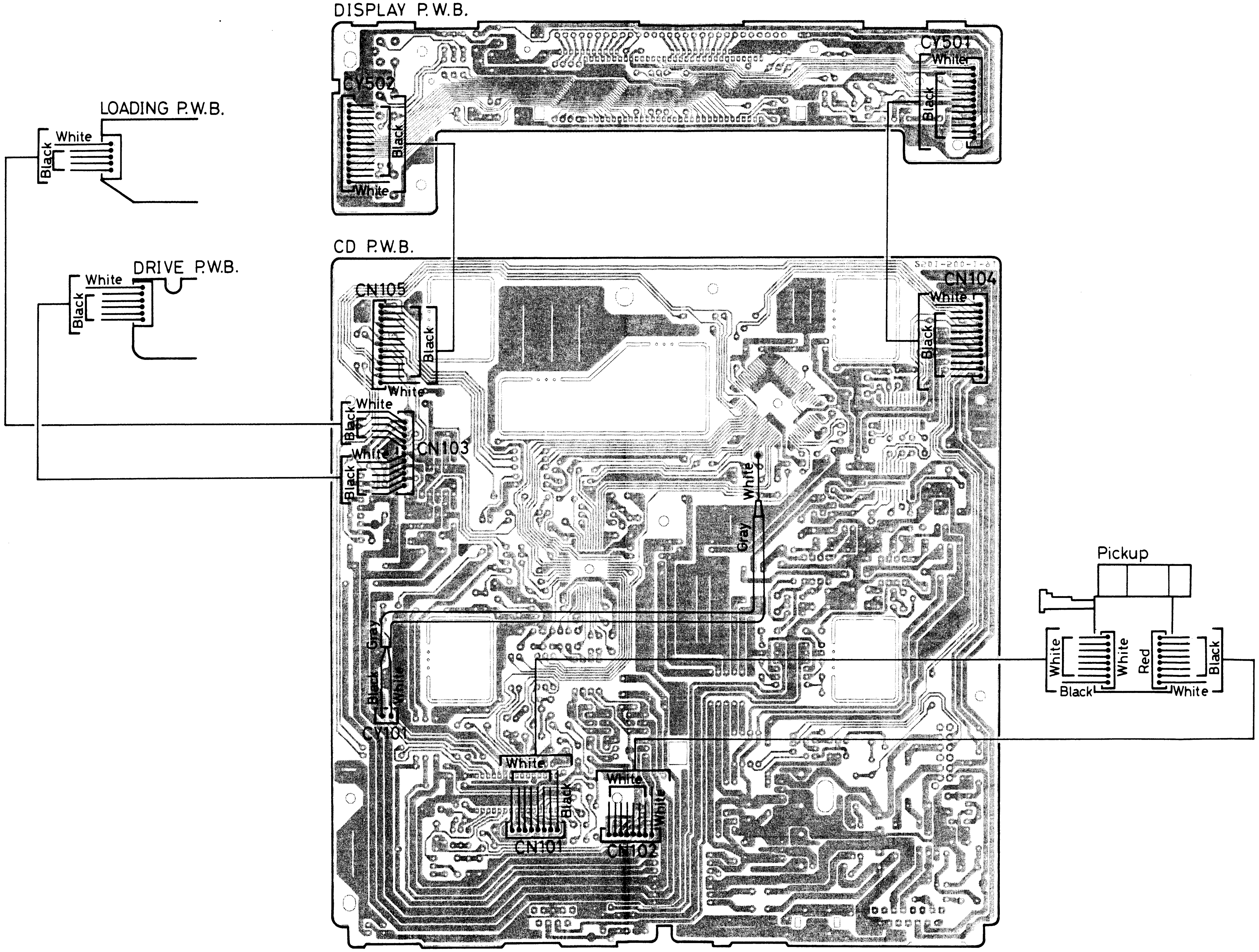

2501-500-1-91
CN104
C166
C171
IC103
IC102
IC101
IC104
IC105
IC106
CN101
CN102
CN103
CN105
S101
S102
X101
VR101
VR102
VR103
VR104
VR105
FR101
FR102
FR103
FR104
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
Q201
Q301
IP101
R144
R312
R307
R213
C131
C303
C305
C306
D101
D102
D103
D104
D105
D106
D107
D108
D109
D110
D111

Compact Disc Display


2501-501-1-92
CY501
C507
D506
R517
IC502
C502
D501
R502
Q501
R501
R503
D502
R511
R512
D503
CF501
R510
R518
R519
C506
IC501
FL501
R520
C505
D505
C504
R514
R513
C503
R506
R507
R515
D504
R505
R508
R504
R509
S501
S502
S503
SY502

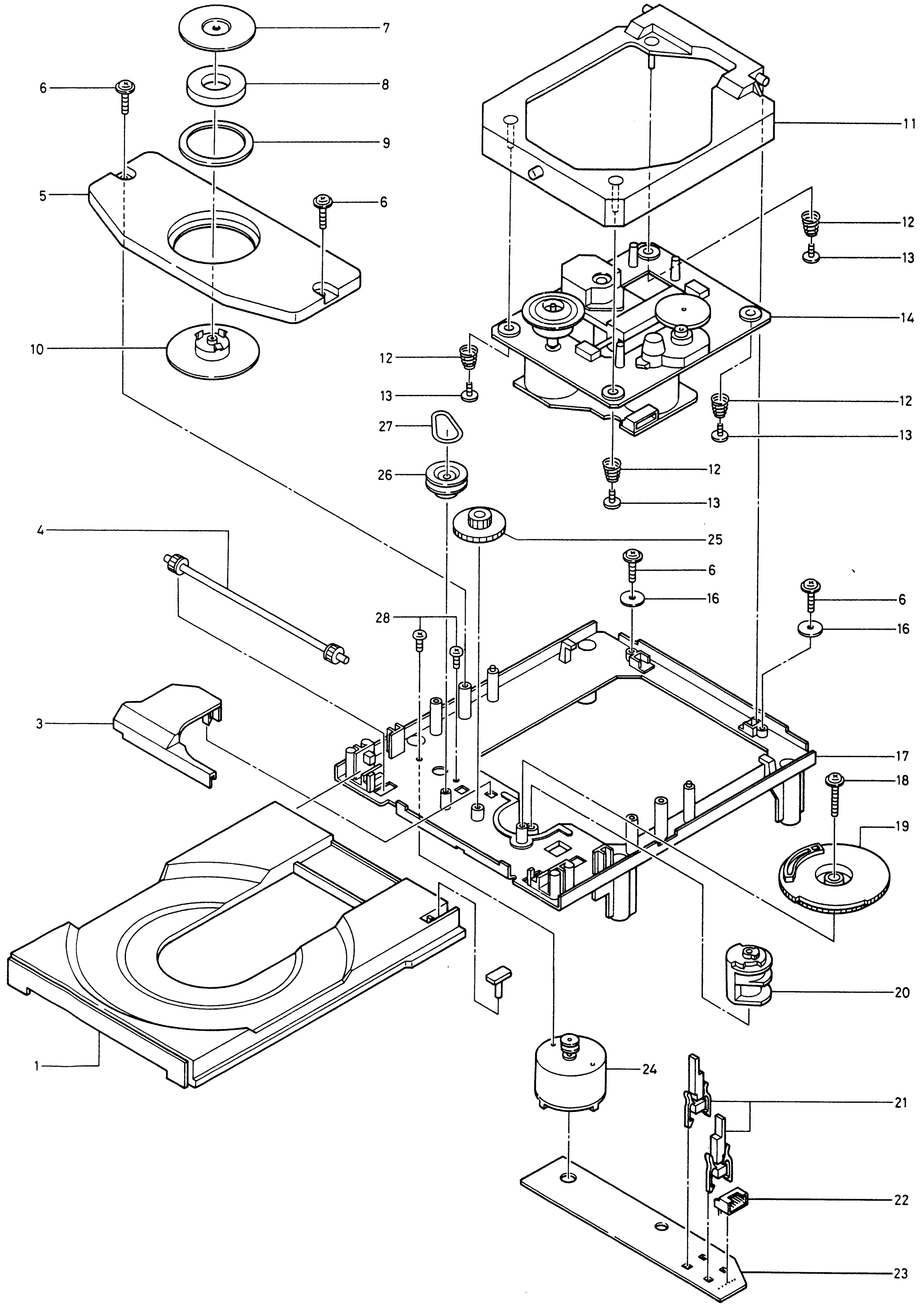
WIRING DIAGRAM

Compact Disc


DISPLAY P.W.B.
CY502
Black
White
CY501
White
Black
LOADING P.W.B.
White
Black
DRIVE P.W.B.
White
Black
CD P.W.B.
CN105
Black
White
CN104
White
Black
White
Black
White
Black
CN103
White
Gray
Gray
Black
White
CY101
White
Black
CN101
White
White
CN102
Pickup
White
White
Red
Black
Black
White

EXPLODED VIEW

Compact Disc Mechanism


7
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26
12
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25
4
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16
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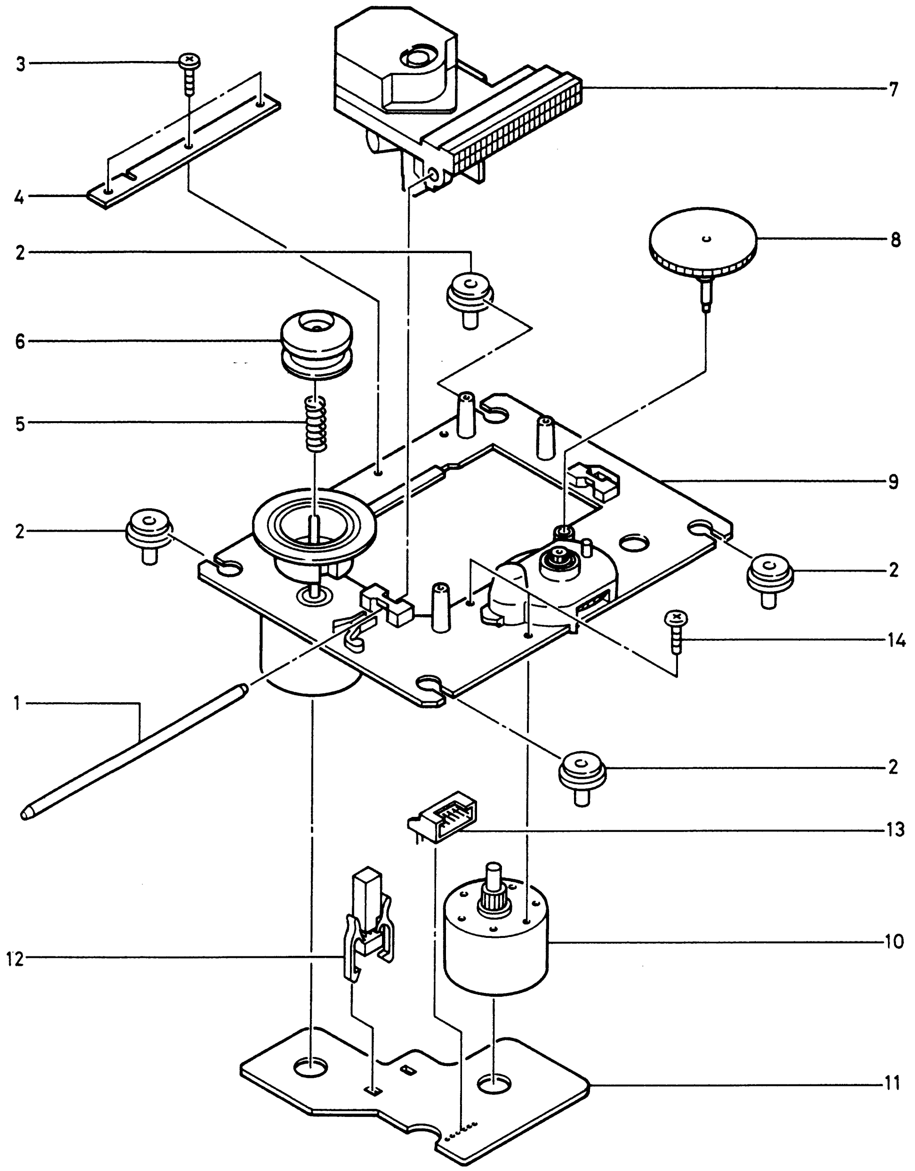
16
28
3
17
18
19
1
20
24
21
22
23

Pickup Mechanism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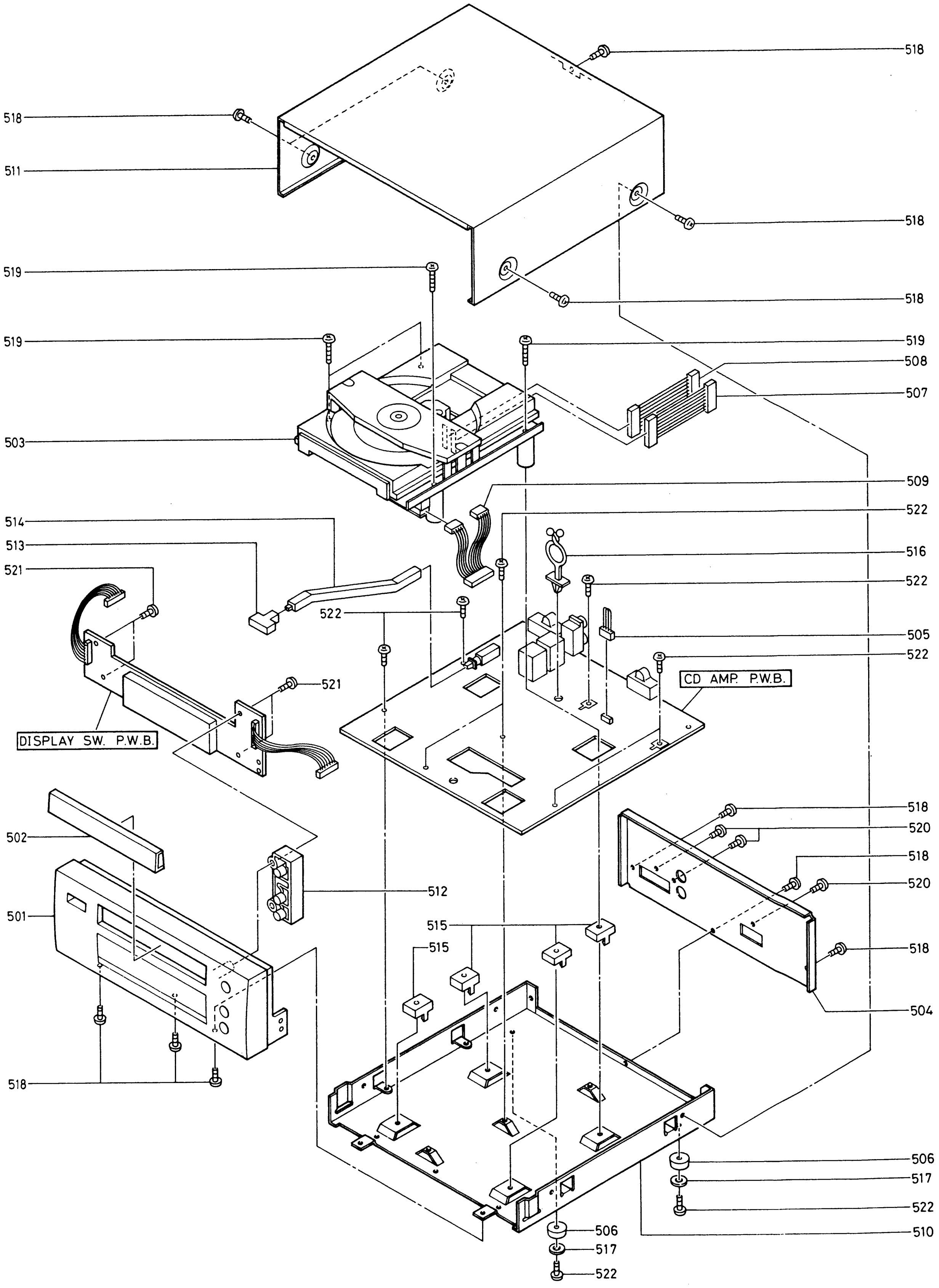
6
5
9
2
2
14
1
2
13
10
12
11

EXPLODED VIEW

Compact Disc Cabinet


518
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505
522
521
CD AMP. P.W.B.
DISPLAY SW. P.W.B.
518
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502
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512
501
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515
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504
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506
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522
506
510
517
522

PARTS LIST

Compact Disc

SYMBOL No.	PART No.	DESCRIPTION
PWB ASSEMBLY		
	2501-605-0-00	CD amplifier PWB ass (with Display switch PWB)
CAPACITORS		
C101	0937-850-1-06	EL, 1 µF ±20% 50V
C102	0937-821-0-06	EL, 10 µF ±20% 16V
C103	0937-811-0-16	EL, 100 µF ±20% 10V
C104	9300-251-5-04	CC, 15 PF ±5% 50V
C105	9336-755-6-24	MF, 5600 PF ±5% 50V
C106	0937-834-7-06	EL, 47 µF ±20% 25V
C107	9336-751-0-34	MF, 0.01 µF ±5% 50V
C108	9336-751-0-34	MF, 0.01 µF ±5% 50V
C109	0933-451-8-34	CF, 0.018 µF ±5% 50V
C110	0937-834-7-06	EL, 47 µF ±20% 25V
C111	9336-752-2-24	MF, 2200 PF ±5% 50V
C112	9301-451-0-25	CC, 1000 PF ±10% 50V
C113	9301-451-0-15	CC, 100 PF ±10% 50V
C114	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C115	0937-834-7-06	EL, 47 µF ±20% 25V
C116	0937-834-7-06	EL, 47 µF ±20% 25V
C117	9301-451-0-25	CC, 1000 PF ±10% 50V
C118	9336-751-0-34	MF, 0.01 µF ±5% 50V
C119	0937-821-0-06	EL, 10 µF ±20% 16V
C120	0933-451-0-44	CF, 0.1 µF ±5% 50V
C121	0937-834-7-06	EL, 47 µF ±20% 25V
C122	0937-834-7-06	EL, 47 µF ±20% 25V
C123	0933-451-0-44	CF, 0.1 µF ±5% 50V
C124	0933-451-0-44	MF, 0.1 µF ±5% 50V
C125	0937-851-0-06	EL, 10 µF ±20% 50V
C126	0933-453-3-34	CF, 0.033 µF ±5% 50V
C127	0937-834-7-06	EL, 47 µF ±20% 25V
C128	9336-754-7-24	MF, 4700 PF ±5% 50V
C129	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C130	9301-451-8-15	CC, 180 PF ±10% 50V
C131	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C132	0933-453-3-34	MF, 0.033 µF ±5% 50V
C133	0937-854-7-96	EL, 0.47 µF ±20% 50V
C134	0937-852-2-86	EL, 2.2 µF ±20% 50V
C135	9301-453-9-15	CC, 390 PF ±10% 50V
C136	0937-832-2-06	EL, 22 µF ±20% 25V
C137	9301-451-0-25	CC, 1000 PF ±10% 50V
C138	9336-751-0-34	MF, 0.01 µF ±5% 50V
C139	0937-834-7-06	EL, 47 µF ±20% 25V
C140	9301-451-0-25	CC, 1000 PF ±10% 50V
C141	0937-854-7-96	EL, 0.47 µF ±20% 50V
C142	9336-751-0-34	MF, 0.01 µF ±5% 50V
C143	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C144	0937-834-7-06	EL, 47 µF ±20% 25V
C145	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C146	9301-152-2-04	CC, 22 PF ±5% 50V
C147	9301-152-2-04	CC, 22 PF ±5% 50V
C148	0937-851-0-96	EL, 0.1 µF ±20% 50V
C149	0937-834-7-06	EL, 47 µF ±20% 25V
C150	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C151	0937-812-2-16	EL, 220 µF ±20% 10V
C152	0937-811-0-16	EL, 100 µF ±20% 10V
C153	0937-811-0-16	EL, 100 µF ±20% 10V
C154	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C155	0937-851-0-06	EL, 10 µF ±20% 50V
C156	0937-854-7-06	EL, 47 µF ±20% 50V
C157	9302-332-2-39	CC, 0.022 µF +80/-20% 25V
C158	0937-854-7-86	EL, 4.7 µF ±20% 50V
C159	0937-752-2-16	EL, 220 µF ±20% 50V
C160	0937-752-2-16	EL, 220 µF ±20% 50V
C161	0937-832-2-16	EL, 220 µF ±20% 25V
C162	0937-832-2-16	EL, 220 µF ±20% 25V
C163	0937-814-7-16	EL, 470 µF ±20% 10V
C164	0937-814-7-16	EL, 470 µF ±20% 10V
C165	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C166	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C167	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C168	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C169	9301-451-0-15	CC, 100 PF ±10% 50V
C170	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C171	9301-251-0-25	CC, 1000 PF ±10% 50V
C172 to C200	Not used.	
C201	0937-811-0-16	EL, 100 µF ±20% 10V
C202	9301-451-0-15	CC, 100 PF ±10% 50V
C203	0938-914-7-16	EL, 470 µF ±20% 10V
C204	9301-451-0-15	CC, 100 PF ±10% 50V
C205	0937-811-0-16	EL, 100 µF ±20% 10V
C206	9336-755-6-24	MF, 5600 PF ±5% 50V
C207	9336-751-2-24	MF, 1200 PF ±5% 50V
C208	0933-451-5-34	CF, 0.015 µF ±5% 50V
C209	0937-811-0-16	EL, 100 µF ±20% 10V
C210	9363-221-0-06	EL, 10 µF ±20% 16V
C211	9301-453-9-15	CC, 390 PF ±10% 50V
C212 to C300	Not used.	
C301	0937-811-0-16	EL, 100 µF ±20% 10V
C302	9301-451-0-15	CC, 100 PF ±10% 50V
C303	0937-814-7-16	EL, 470 µF ±20% 10V
C304	9301-451-0-15	CC, 100 PF ±10% 50V
C305	0937-811-0-16	EL, 100 µF ±20% 10V
C306	9336-755-6-24	MF, 5600 PF ±5% 50V
C307	9336-751-2-24	MF, 1200 PF ±5% 50V
C308	0933-451-5-34	CF, 0.015 µF ±5% 50V
C309	0937-811-0-16	EL, 100 µF ±20% 10V
C310	9363-221-0-06	EL, 10 µF ±20% 16V
C311	9301-453-9-15	CC, 390 PF ±10% 50V
C312 to C500	Not used.	
C501	9301-153-3-04	CC, 33 PF ±5% 50V
C502	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C503	0936-651-0-06	EL, 10 µF ±20% 50V
C504	0936-614-7-06	EL, 47 µF ±20% 10V
C505	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C506	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
C507	9302-351-0-49	CC, 0.1 µF +80/-20% 50V
RESISTORS		
R101	0921-522-2-04	CF, 22 ohm ±5% SRD 1/2P
R102	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R103	0920-819-1-04	CF, 91 ohm ±5% SRD 1/4P
R104	0920-862-2-24	CF, 2.2k ohm ±5% SRD 1/6P
R105	0920-861-2-34	CF, 12k ohm ±5% SRD 1/6P
R106	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R107	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R108	0920-862-8-34	CF, 20k ohm ±5% SRD 1/6P
R109	0920-861-8-34	CF, 18k ohm ±5% SRD 1/6P
R110	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R111	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R112	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R113	0920-862-2-44	CF, 220k ohm ±5% SRD 1/6P
R114	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R115	0920-861-2-44	CF, 120k ohm ±5% SRD 1/6P
R116	0920-862-2-44	CF, 220k ohm ±5% SRD 1/6P
R117	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P

SYMBOL No.	PART No.	DESCRIPTION
R118	0920-861-5-44	CF, 150k ohm ±5% SRD 1/6P
R119	0920-866-8-24	CF, 6.8k ohm ±5% SRD 1/6P
R120	0920-868-3-34	CF, 33k ohm ±5% SRD 1/6P
R121	0920-861-0-14	CF, 100 ohm ±5% SRD 1/6P
R122	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R123	0920-865-1-44	CF, 510k ohm ±5% SRD 1/6P
R124	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R125	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R126	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R127	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R128	0920-861-0-54	CF, 1M ohm ±5% SRD 1/6P
R129	0920-862-2-34	CF, 22k ohm ±5% SRD 1/6P
R130	0920-863-3-24	CF, 3.3k ohm ±5% SRD 1/6P
R131	0920-861-5-44	CF, 150k ohm ±5% SRD 1/6P
R132	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R133	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R134	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R135	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R136	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R137	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R138	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R139	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R140	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R141	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R142	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R143	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R144	0920-863-9-24	CF, 3.9k ohm ±5% SRD 1/6P
R145	0920-861-5-34	CF, 15k ohm ±5% SRD 1/6P
R146	0920-861-5-24	CF, 1.5k ohm ±5% SRD 1/6P
R147	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R148	0920-863-9-24	CF, 3.9k ohm ±5% SRD 1/6P
R149	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R150	0920-862-2-14	CF, 220 ohm ±5% SRD 1/6P
R151	0920-861-5-14	CF, 150 ohm ±5% SRD 1/6P
R152		
to	Not used.	
R200		
R201	0920-861-2-24	CF, 1.2k ohm ±5% SRD 1/6P
R202	0920-865-6-14	CF, 560 ohm ±5% SRD 1/6P
R203	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R204	0920-869-1-14	CF, 910 ohm ±5% SRD 1/6P
R205	0920-869-1-14	CF, 910 ohm ±5% SRD 1/6P
R206	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R207	0920-812-2-04	CF, 22 ohm ±5% SRD 1/4P
R208	0920-861-1-24	CF, 1.1k ohm ±5% SRD 1/6P
R209	0920-861-1-24	CF, 1.1k ohm ±5% SRD 1/6P
R210	0920-861-1-24	CF, 1.1k ohm ±5% SRD 1/6P
R211	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R212	0920-812-2-04	CF, 22 ohm ±5% SRD 1/4P
R213	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R214	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R215		
to	Not used.	
R300		
R301	0920-861-2-24	CF, 1.2k ohm ±5% SRD 1/6P
R302	0920-865-6-14	CF, 560 ohm ±5% SRD 1/6P
R303	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R304	0920-869-1-14	CF, 910 ohm ±5% SRD 1/6P
R305	0920-869-1-14	CF, 910 ohm ±5% SRD 1/6P
R306	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R307	0920-812-2-04	CF, 22 ohm ±5% SRD 1/4P
R308	0920-861-1-24	CF, 1.1k ohm ±5% SRD 1/6P
R309	0920-861-1-24	CF, 1.1k ohm ±5% SRD 1/6P
R310	0920-861-1-24	CF, 1.1k ohm ±5% SRD 1/6P
R311	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R312	0920-812-2-04	CF, 22 ohm ±5% SRD 1/4P
R313	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R314	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P

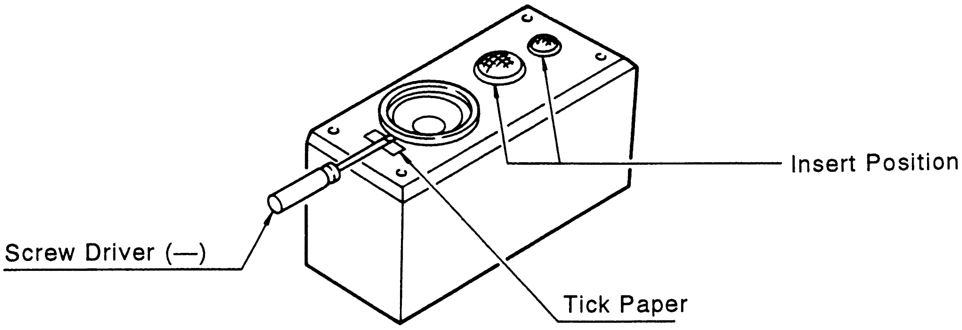
SYMBOL No.	PART No.	DESCRIPTION
R315		
to	Not used.	
R500		
R501	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R502	0920-861-0-44	CF, 100k ohm ±5% SRD 1/6P
R503	0920-862-7-34	CF, 27k ohm ±5% SRD 1/6P
R504	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R505	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R506	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R507	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R508	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R509	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R510	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R511	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R512	0920-861-0-24	CF, 1k ohm ±5% SRD 1/6P
R513	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R514	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R515	0920-861-0-34	CF, 10k ohm ±5% SRD 1/6P
R516	Not used.	
R517	0920-864-7-24	CF, 4.7k ohm ±5% SRD 1/6P
R518	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R519	0920-864-7-34	CF, 47k ohm ±5% SRD 1/6P
R520	0920-866-8-34	CF, 68k ohm ±5% SRD 1/6P
⚠FR101	0921-111-0-04	CF, 10 ohm ±5% SRD 1/4P
⚠FR102	0921-114-7-84	CF, 4.7 ohm ±5% SRD 1/4P
⚠FR103	0926-031-0-04	CF, 10 ohm ±5% SRD 1P
⚠FR104	0926-031-0-04	CF, 10 ohm ±5% SRD 1P
COILS		
L101	0991-401-0-05	LHL06TB100K
FILTER		
CF501	0038-911-0-00	Ceramic resonat
DIODES		
D101	0915-003-9-00	1SS133
D102	0915-003-9-00	1SS133
D103	0915-023-3-00	RD3.0ESB2
D104	0915-009-9-01	RD5.1ESB1
D105	0915-009-9-01	RD5.1ESB1
D106	0915-011-3-04	RD27ESB4
	or 0915-011-3-03	RD27ESB3
D107	0915-005-2-04	MPG06D
	or 0915-005-2-02	MPG06B
D108	0915-005-2-02	MPG06B
	or 0915-005-2-04	MPG06D
D111	0915-010-5-02	RD12ESB2
D501	0915-003-9-00	1SS133
D502	0915-010-5-02	RD12ESB2
D503	0915-010-5-02	RD12ESB2
D504	0915-003-9-00	1SS133
D505	0915-010-2-03	RD9.1ESB3
	or 0915-010-2-01	RD9.1ESB1
	or 0915-010-2-02	RD9.1ESB2
D506	0915-003-9-00	1SS133
ICS and TRANSISTORS		
IC101	0911-081-2-00	CXA1081S
IC102	0911-091-5-00	CXA1082BQ
IC103	0911-113-2-00	CXD1167Q
IC104	0911-143-1-00	SM5840CS
IC105	0911-152-5-00	PCM67U
IC106	0911-150-5-00	TA7291S
⚠IC107	0911-157-2-00	AN79M05
⚠IC108	0911-056-1-00	AN78M05

SYMBOL No.	PART No.	DESCRIPTION
IC201	0911-051-9-00	NJM4560D
IC301	0911-051-9-00	NJM4560D
IC501	0037-165-0-00	UPD75212ACW-A27
IC502	0911-153-5-00	PST600D
Q101	0906-202-3-55	2SA1048-GR
Q102	0903-008-1-00	2DS2012
Q103	0906-209-4-25	2SA966-Y
Q104	0906-209-5-25	2SC2236-Y
Q105	0906-209-4-25	2SA966-Y
Q106	0906-209-5-25	2SC2236-Y
Q107	0906-209-4-25	2SA966-Y
Q108	0906-209-5-25	2SC2236-Y
Q109	0906-209-4-25	2SA966-Y
Q110	0906-208-3-00	BN1A4M
	or 0906-208-7-00	DTA114ES
Q111	0906-224-7-00	BN1A4Z
	or 0906-202-1-00	DTA114TS
Q112	0906-200-2-55	2SA1015-GR
Q201	0906-203-5-02	2SC2878-B
Q301	0906-203-5-02	2SC2878-B
Q501	0906-203-3-18	2SC1740S-R
	JACK	
J101	0034-004-0-00	Pin 2P
	SWITCHES	
S101	0028-035-0-00	Push
S501	0028-829-0-40	Tact
S502	0028-829-0-40	Tact
S503	0028-829-0-40	Tact
	VARIABLE RESISTORS	
VR101	0031-835-2-03	SF volume control, 20k ohm
	or 0031-837-2-03	SF volume control, 20k ohm
VR102	0031-835-2-02	SF volume control, 2k ohm
	or 0031-837-2-02	SF volume control, 2k ohm
VR103	0031-837-2-03	SF volume control, 20k ohm
	or 0031-835-2-03	SF volume control, 20k ohm
VR104	0031-835-2-03	SF volume control, 20k ohm
	or 0031-837-2-03	SF volume control, 20k ohm
VR105	0031-834-2-02	SF volume control, 2k ohm
	CONNECTORS	
CN101	0034-750-0-08	Pin, 8 pin
CN102	0034-832-0-08	Pin, 8 pin
CN103	0034-750-0-11	Pin, 11 pin
CN104	0034-750-0-12	Pln, 12 pin
CN105	0034-750-0-13	Pin, 13 pin
CN106	0034-750-0-04	Pin, 4 pin
SY101	0034-007-0-09	System connector pin, 9P
SY102	0034-007-0-15	System connector pin, 15P
	OTHERS	
⚠FL501	0040-606-0-00	Display
⚠IP101	0045-802-0-10	ICP-N10
⚠IP102	0045-802-0-10	ICP-N10
X101	0038-097-0-00	Crystal
	or 0038-059-0-00	Crystal
	ACCESSORIES	
	2501-910-0-01	Gift box
	2501-915-0-00	Mirror mat

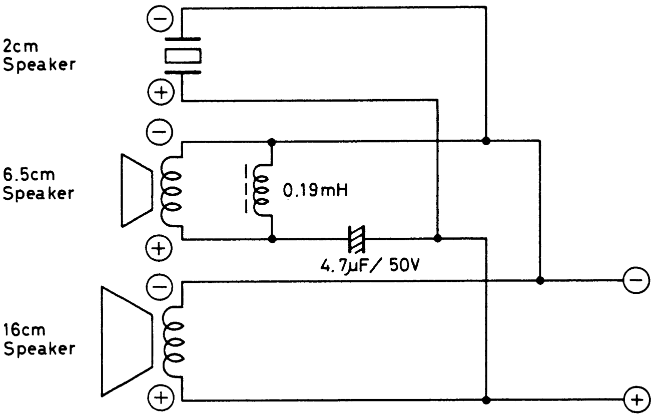
SYMBOL No.	PART No.	DESCRIPTION
	MECHANISM	
1	2-625-550-01	Tray S
2	Not used.	
3	2-625-544-01	Gear cover
4	2-625-535-01	Tray Gear
5	2-625-546-01	Plate
6	3-319-501-11	+PTPWH 2.6x8
7	2-625-537-01	Chacking yoke
8	1-452-493-21	Magnet
9	2-625-541-01	Dumper
10	2-625-548-01	Chacking pulley
11	X-2625-227-1	Sub chassis ass
12	2-625-539-01	Spring
13	2-644-410-02	Screw with washer
14	KSM-2101ABM	Drive unit
15	Not used.	
16	3-464-123-02	Washer
17	2-625-552-01	Main chassis
18	3-319-501-51	+PTPWH 2.6x16
19	2-625-547-01	Drive gear
20	2-625-545-02	Control cam
21	1-572-086-11	Leaf switch
22	1-564-721-11	Connector pin 5P
23	1-640-523-11	Loading PCB
24	X-2625-117-1	Loading ass
25	2-625-534-02	Meddle gear
26	2-625-536-01	Loading pulley
27	3-653-387-01	LM belt
28	2-625-279-01	Screw, +B 2.6x2.5
	PICKUP MECHANISM	
1	2-625-464-01	Sled shaft
2	2-625-538-01	Insulator
3	2-641-386-01	Screw, tapping S2x5
4	2-625-625-01	Reinforce plate
5	2-625-465-01	Compression spring
6	2-625-477-01	Centerring (LO)
7	8-848-127-31	Pickup KSS-210A
8	2-625-462-01	Gear A
9	X-2625-133-2	TT chassis
10	X-2625-132-1	Motor gear
11	1-639-678-12	Motor PCB
12	1-572-085-12	Reaf switch
13	1-564-722-11	Connector 6 pin
14	7-621-255-15	Screw P2x3
	CABINET	
501	2501-600-0-01	Sub panel ass
502	2501-601-0-01	Tray panel ass
⚠503	2501-602-0-00	CD mecha ass
504	2501-604-0-02	Back panel ass
505	2501-538-0-00	Wire connector, 4 pin
506	2501-866-0-00	Foot
507	2501-530-0-00	Wire connector, 8 pin
508	2501-531-0-00	Wire connector, 8 pin
509	2501-537-0-00	Wire connector, 11 pin
510	2501-811-0-00	Bottom chassis
511	2501-812-0-01	Metal case
512	2501-860-0-01	CD control knob
513	2501-861-0-01	PSW knob
514	2501-862-0-00	PSW joint
515	2501-865-0-00	CD foot
516	0064-685-0-00	Wire clamper, 2676
517	2501-881-0-00	Foot R
518	0972-730-0-63	ST screw B3x6-SBK
519	0972-730-1-65	ST screw B3x16-SK
520	0973-230-0-83	BT screw B3x8-SBK
521	0973-230-0-85	BT screw B3x8-SK
522	0972-730-0-75	ST screw B3x6-SK

DISASSEMBLY INSTRUCTIONS

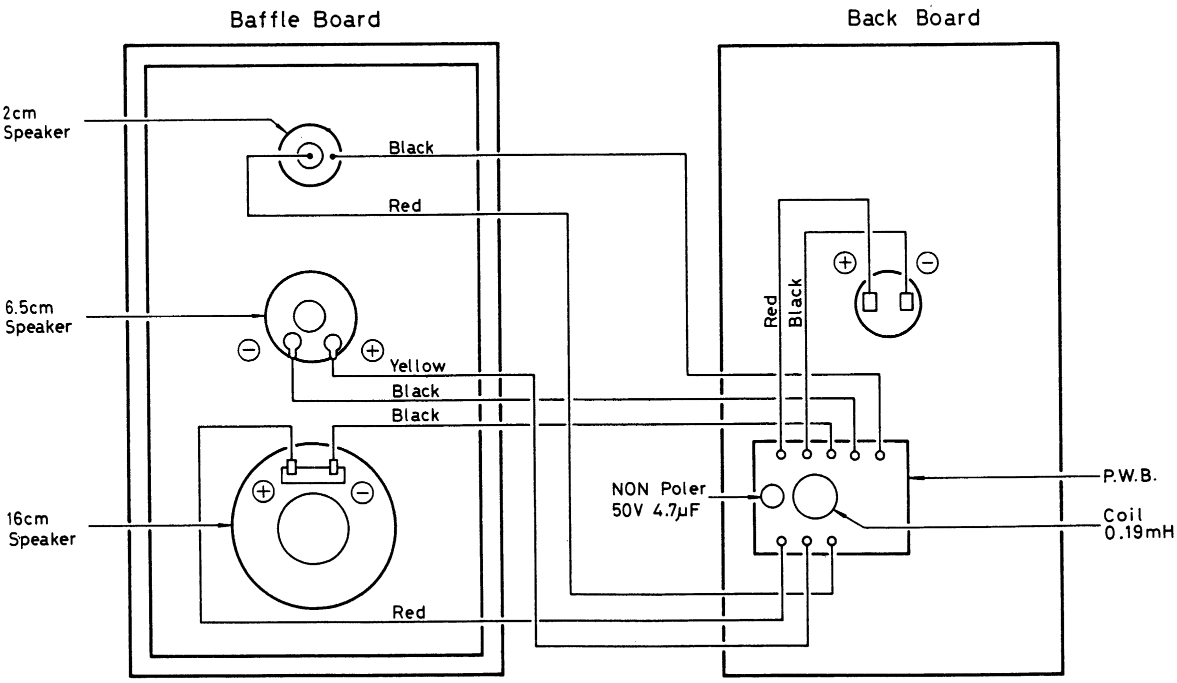
SPEAKER


Insert Position
Screw Driver (—)
Tick Paper

SCHEMATIC DIAGRAM

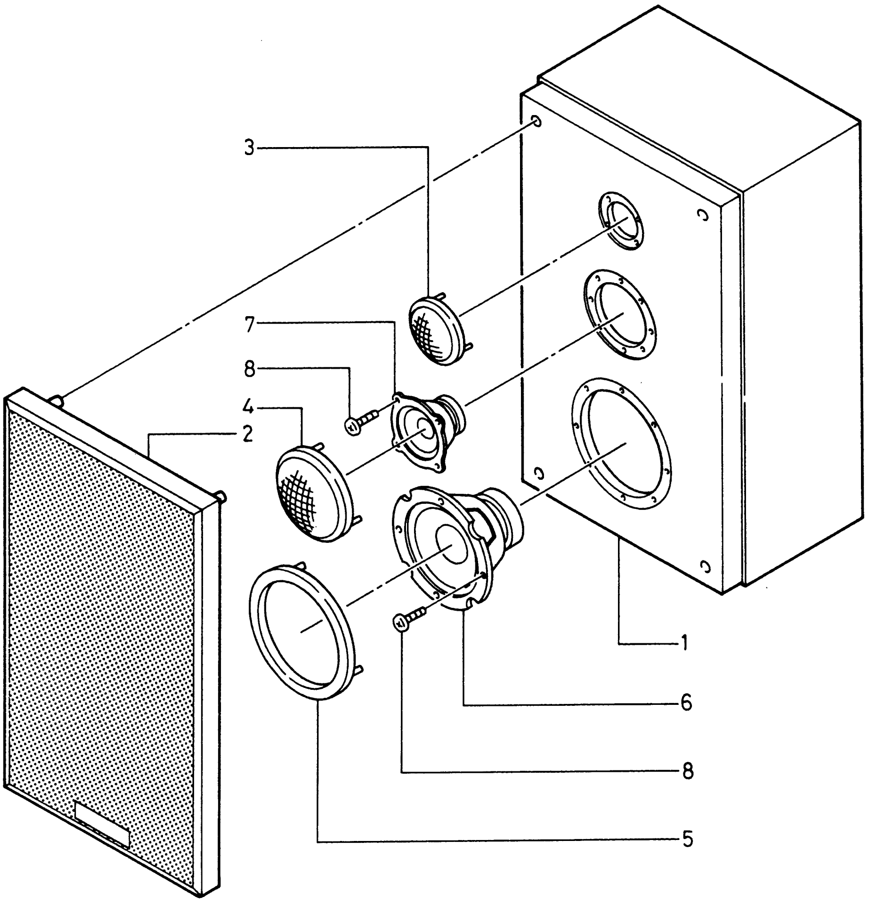

2cm Speaker
6.5cm Speaker
16cm Speaker
0.19mH
4.7μF/ 50V
⊖
⊕

WIRING DIAGRAM


Baffle Board
Back Board
2cm Speaker
6.5cm Speaker
16cm Speaker
Black
Red
Yellow
Black
Black
Red
Red
Black
NON Poler 50V 4.7μF
P.W.B.
Coil 0.19mH

EXPLODED VIEW

Speaker



PARTS LIST

SYMBOL No.	PART No.	DESCRIPTION
1	T7097	Cabinet ass
2	T7098	Grille frames ass
3	T7099	Ring ass (TW)
4	K6088K	Ring ass (MID rang)
5	J2059K	Ring (Woofer)
6	C6070L	Woofer SP unit
7	C7023L	Middle range SP unit
8	F1107	Screw ø3.5 x 11